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REPORT

OF THE

DIRECTOR-GENERAL
OF PUBLIC HEALTH

FOR THE YEAR ENDED
31st DECEMBER, 1962

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1962–63

PARLIAMENT OF NEW SOUTH WALES

REPORT

OF THE

Director-General of Public Health

For 1962

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DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES

Office of the Director-General of Public Health and State Psychiatric Services
52 Bridge Street, Sydney

MEMBERS OF THE STATE BOARD OF HEALTH
(As at 31st December, 1962)

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(as at 31st December, 1962)

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Cyril Joseph Cummins, M.B., B.S., D.P.H.

Administrative Assistant to Director-General of Public Health
Gordon Alfred Loughrey, Esq.

Director of State Health Services and Senior Medical Officer of Health
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Director, Division of Establishments
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Metropolitan Medical Officer of Health
Alexander Douglas, LL.B., M.B., Ch.B., D.P.H., D.T.M. and H.

Senior Medical Officers / Assistant Medical Officers of Health
Richard William David Maxwell, O.B.E., M.B., Ch.B., D.P.H., D.T.M. and H.
Ronald Yorston Dunlop, M.D., B.Ch., D.P.H., D.T.M. and H.

Secretary, Board of Health
Charles John Richard Mortimer, Esq.

DIVISIONS AND BRANCHES

The following Divisions are controlled by the Director-General of Public Health and State Psychiatric Services : Division of Establishments, Maternal and Baby Welfare ; Tuberculosis ; School Medical Service ; Dental Services ; Epidemiology ; Occupational Health ; Forensic Medicine ; Medical Officers of Health for the Metropolitan, Newcastle, South Coast, Western, North Western, North Coast and Broken Hill Districts ; Institute of Clinical Pathology and Medical Research ; Health Education ; Pure Food ; Health Inspection ; and Private Hospitals.

The Division of Establishments includes twelve Mental Hospitals and the David Berry Hospital ; Lidcombe and Newington State Hospitals and Homes ; Strickland Convalescent Hospital, Vaucluse ; Randwick Chest Hospital ; Garrawarra Hospital, Waterfall.

LEGISLATIVE ENACTMENTS

The Minister for Health is charged with the administration of the following Acts, for the promotion of the Public Health, execution of which is left to the Director-General of Public Health and State Psychiatric Services and the staff working under his control ; Mental Health Act, 1958 ; Food Preservation by Sulphur Dioxide Enabling Act, 1920 ; Noxious Trades Act, 1902-1944 ; Private Hospitals Act, 1908-1954 ; Public Health Act, 1902-1952 ; Pure Food Act, 1908-1958 ; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937 ; Venereal Diseases Act, 1918 ; Radioactive Substances Act, 1957 ; Fluoridation of Public Water Supplies Act, 1957 ; and the Clean Air Act, 1961.

Report of the Director-General of Public Health

TO

The Honourable The Minister for Health

(The Hon. W. F. SHEAHAN, Q.C., LL.B., M.L.A.)

Sir,

It is my pleasing duty to present to you, my Annual Report for the year ended 31st December, 1962. Included in this Report is detailed information regarding the function and activities of the various Sections, Branches and Divisions, in addition to which I now wish to mention a number of major advancements, during the year, in the field of Public Health.

The Health Advisory Council, constituted in 1961, continued to meet at regular intervals, and submitted to you, during 1962, its Second and Third Interim Reports in respect to the Care of the Aged and The Intellectually Handicapped respectively. Action is in hand to implement a number of the recommendations of the Council, and attention will be given to others as finance becomes available.

The policy of decentralisation of public health activities has been further expanded. The North Western Health District, with headquarters at Tamworth, was opened during 1962, and is now functioning smoothly. It is hoped that the Riverina Health District, with headquarters at Cootamundra, will be opened in the near future.

Further progress has been made in the care of elderly persons. The first stage of Allandale Hospital at Cessnock has been completed and ninety-six aged patients will be discharged from Mental Hospitals thereto early in 1963, and additional similar accommodation will be available there within a further short period. A standard plan for a Geriatric Villa has been approved, and it is planned to erect two of these at Allandale, three at Parramatta and two at Rydalmere during 1963 and 1964.

The activities of the Division of Maternal and Baby Welfare continue to expand, with resultant benefit to the mothers and babies in this State. The recommendations of the 1958 Infant Mortality Committee have been further implemented in that action is in hand to establish a Paediatric Consultant Panel which will function in a somewhat similar manner to the present Obstetric Consultant Panel. This will enable medical practitioners in country areas to obtain specialist opinion from a Paediatric Consultant on difficult cases occurring in young children.

The care of mothers and babies in the sparsely populated areas of the western portions of the State has always been of some concern to the Department. In 1960, the Department commenced, as a pilot scheme, a Mobile Baby Health Service, based at Balranald, to service the area covered by the Shires of Balranald and Wentworth. The Sister conducting this service drives a car, fitted with 2-way radio, and calls and assists mothers in small hamlets and station properties in a very wide area. The scheme has proved most successful, and it is now intended to extend to other areas, a similar service based at Hillston. It is confidently expected that the second mobile service will commence in 1963, and that more will follow.

A new concept in forensic medicine has been implemented, with the abolition of the Government Medical Officer's Branch, and the establishment in lieu thereof of the Division of Forensic Medicine. This Division is housed in separate premises, and with additional equipment will be able to provide a more adequate service.

There has been further increase in the functions of the Division of Occupational Health, with special reference to increased investigation of industrial hazards, scientific testing of protective equipment, and the investigation of physiological conditions under which certain works are carried out. Additional attention is being paid to hazards in agriculture, caused by the increased use of toxic chemicals for pest eradication.

A Clean Air Conference was held in Sydney during the early part of 1962, and attended by prominent scientists from interstate and abroad as well as from New South Wales, proved an unqualified success. The Council constituted under the Clean Air Act is meeting at regular intervals to prepare the Regulations necessary to implement that Act. When the Clean Air Act is fully in force much improvement in air pollution in this State can be expected.

During the year under reference, Mr. Whaite, Officer in Charge of this Department's Radiation Branch was awarded a World Health Organisation Fellowship which enabled him to visit America and the United Kingdom, and the knowledge thus gained will be of great value to the Department in its control of radiation in New South Wales.

A new Child Health Centre was established at Bexley in 1962, and others for Chatswood and Bankstown are in the planning stage. It is hoped that one or both of these will be opened in 1963. The School Medical Service is giving additional consideration to mental health in children, with particular reference to early diagnosis of the intellectually handicapped.

The position in regard to the fluoridation of public water supplies is still somewhat disappointing, but quite a number of water supply authorities are now very interested, and it is confidently expected that this medium of prevention of dental caries will soon be more widely adopted by the authorities concerned. It is hoped that a survey of the benefits of fluoridation of water supplies will be commenced at Tamworth during 1963.

During 1962 there was a pleasing expansion of the work of the Division of Dental Services. The appointments of five additional Dental Officers and five more Dental Assistants were approved. Five new Dental Clinics were put into operation at public schools at Wollongong, Adamstown, Hurstville, Naremburn and Parramatta. The number of mobile clinics in operation was increased by three, making a total of twelve, and this will appreciably improve the dental attention to school children in country areas.

In September of 1962, the Director of the Division of Dental Services visited New Zealand to study the School Dental Service of that country, and his report of his investigations will be of much help to this Department in future planning. Dental services to Government Institutions have been maintained, and a new Dental Clinic was opened at the Glenfield Park Special School. This will be staffed at regular intervals by Departmental Dental Officers.

Expansion continues in the field of tuberculosis control. Regular chest X-ray surveys are conducted by the Division of Tuberculosis and it is pleasing to note that it has been possible to inaugurate the procedure of informing those persons concerned, that their X-rays are clear. Previously only those who needed some follow-up investigation were contacted after a mass X-ray survey and this was not considered entirely satisfactory.

I am pleased to report that the Serology Laboratory in the Division of Epidemiology has been granted recognition by the National Health and Medical Research Council as a Syphilis Reference Laboratory for the Commonwealth of Australia, and Dr. Garner, who is in charge of the Laboratory, has been granted an overseas travelling Fellowship by that Council, to make further studies in this field of medicine.

Rapid progress has been made towards establishing a Community Psychiatric Service, as recommended in the First Report of the Health Advisory Council. The Caritas Centre, conducted by the St. Vincent's Hospital, was opened in September of 1962 and provides a Psychiatric Day Hospital and Out-patient service, thus filling a vital place in the revised Mental Health Programme. Plans are in hand for the erection of an in-patients' intensive treatment unit at this Centre, and erection of this building should be commenced in 1963. Progress is being made in establishing the Day Hospital and Out-patient Unit at Campbell Street, Parramatta, and this, to be conducted by the Parramatta District Hospital, will open in 1963. Tenders have been called for the erection of a Community Psychiatric Unit in close proximity to Parramatta Mental Hospital, and rapid progress is being made in the erection of the unit near Broughton Hall Psychiatric Clinic.

Psychiatric Units at the Royal North Shore Hospital and the St. George District Hospital are planned for 1963-64.

Yours faithfully,

C. J. CUMMINS,
Director-General of Public Health
and State Psychiatric Services.

STATE HEALTH SERVICES

Report of the Director of State Health Services to the Director-General of Public Health

The Annual Reports of the Divisions, Branches and Sections of the Department which are concerned with public health activities and services, are presented.

The North Western Health District, with headquarters at Tamworth, was proclaimed and commenced to function during July, 1962. Dr. J. Henson was appointed Medical Officer of Health. Only one other country Health District now awaits proclamation, namely, the Riverina Health District. This District will commence to function as soon as office accommodation becomes available at Cootamundra, which will be its headquarters.

The policy of decentralisation of public health administration through the Medical Officer of Health in Health Districts has proved most successful. A much more efficient and personal service is available locally within the community, with expert advice and assistance at the immediate disposal of those who require it. The Medical Officer of Health is concerned with environmental and personal health, in addition to being responsible for certain Departmental administration at the local level. He maintains close contact with local health authorities (Municipal and Shire Council), and he and his officers are only too pleased to assist these authorities in their important task of health administration and supervision.

Regular Conferences at three monthly intervals have been held with Medical Officers of Health and the Directors of Divisions. Matters of mutual interest and concern are discussed, and an understanding of the problems of the various Divisions and Districts by the officers attending leads to closer co-operation and increased efficiency.

Conferences of Directors of Divisions and the Metropolitan Medical Officer of Health are held regularly each month.

The Serology Branch of the Division of Epidemiology is to be transferred to the Institute of Clinical Pathology and Medical Research, and the additions to the Institute to accommodate this Branch are now under construction. Dr. Garner, who is in charge of the Branch, has been awarded a National Health and Medical Research Council's Travelling Fellowship, and will be proceeding abroad to study Treponema identification techniques. Following her return, the Serology Branch will become a Syphilis Reference Laboratory for Australia.

Plans are now in the course of preparation for a new building at Lidcombe for the Division of Occupational Health and the Government Analyst. Both these Divisions are in urgent need of additional accommodation, and the provision of modern laboratories will most certainly lead to increased efficiency.

As a result of many inquiries from members of the medical profession as to the health services available from within the Department, a comprehensive handbook is now being prepared giving details of such services and where the service is available.

The informative Departmental magazine " Health in New South Wales ", which is published at quarterly intervals and gives details of the activities of the Department, as well as articles on general health subjects, has proved a most successful innovation and has grown in circulation to the extent that 13,000 copies are now being distributed each issue.

During the year the activities of the Health Inspection and Pure Food Branches, which take place in the Metropolitan area, have been placed under the administration of the Metropolitan Medical Officer of Health.

During the year, three additional Assistant Medical Officers of Health were appointed. Subsequently, one of the appointees, Dr. Krister, was selected to undertake an ad hoc course in Health Education within the Faculty of Applied Psychology of the University of New South Wales. On completion of this course, Dr. Krister will function as the Departmental Health Educationist. This will be the first appointment of its kind made in Australia, and is indicative of the Department's interest in this important branch of public health. Health education is essential. It rightly belongs in the schools.

It is of little use to have available modern scientific knowledge unless all members of the community are made aware of such knowledge, and how it can be applied to protect their health, the health of their children, and the community generally.

The Standing Committee for the Control of Pollution of Waters in New South Wales and the Technical Sub-Committee formed from members of the Standing Committee met on a number of occasions.

This Committee, consisting of representatives of a number of Departments and authorities concerned with water pollution, acts as a co-ordinating body to advise and recommend what action should be taken in individual circumstances to ensure more effective implementation of existing controls relating to pollution of streams and natural water-courses in the State.

In addition to the Technical Sub-Committee other Sub-Committees are appointed from members of the Standing Committee, having a particular interest in the subject under review, to investigate and recommend appropriate action for consideration by the full Committee.

Water is the life blood of any country and its wholesomeness must be preserved. Because of the present unsatisfactory state of affairs of divided control of pollution matters by several Departments and Instrumentalities there is every need for the setting up of a Statutory Authority with the appropriate legislative background and provided with adequate staff and laboratory facilities charged with the prevention and control of the pollution of waters in this State. This proposal is at present under consideration.

A complete review of the Public Health Act, 1902, as amended, was carried out during the year by an ad hoc Committee with the Director of State Health Services as Chairman. The amendments recommended by the Committee are now being collated for presentation to the Minister.

A number of Conferences were held during the year with representatives of the Local Government Association of N.S.W., Shires Association of N.S.W., and the Institute of Health Surveyors, to discuss public health problems. These informal Conferences serve a very useful purpose for the exchange of ideas, and lead to a better understanding between the central health administration and the local authorities which are charged with public health administration.

The reports from the various Divisions, etc., of the Department that come within my administration, indicate that many advances have been made, both administratively and in the interest of public health of the community, during 1962.

The Department is not unmindful of the many problems in public health that still require solution. One of which is dental caries, and it is hoped that during the ensuing few years all public water supplies in New South Wales will be fluoridated. This is the cheapest method of reducing the incidence of dental caries without any doubt whatsoever, despite the assertions of those who oppose it, it is safe and effective.

I desire to take this opportunity of recording my appreciation of the efforts of all members of the staff who have assisted me in our work towards improving and maintaining the health of the community during this year. I feel sure that during 1963 even greater advances will be made.

VITAL STATISTICS

Vital Statistics for New South Wales—1962

The population at the end of 1962 was 4,016,635. During the year the increase in population, by excess of births over deaths, was 48,578, and by migration 18,637, making a total increase for the year of 67,215. The total live births were 85,439, equivalent to 21·46 per 1,000 of the mean population. The number of stillbirths registered was 1,099, equal to 12·70 per 1,000 total births (live and still). Deaths during the year numbered 36,861, equivalent to a rate of 9·26 per 1,000 of population. The rate is 2·0 per cent. above the average of the previous five years. The number of infants under one year of age who died was 1,825, equal to 21·36 per 1,000 live births. The infant death rate for the Sydney Metropolitan area was lower than that for the remainder of the State; the rates being 20·13 and 22·63 per 1,000 live births respectively.

COMMUNICABLE DISEASES

Epidemiology

The number of cases of communicable disease notified during 1962 was 6,153, or 2,468 fewer than in 1961, but with the lesser number of notifications there were 18 more deaths, due in the main, to an increase in deaths from tuberculosis.

Acute Anterior Poliomyelitis. There were 218 confirmed cases with 12 deaths compared with 158 cases and 13 deaths in 1961.

Tuberculosis (all forms). There was an increase of 5 notifications of tuberculosis (all forms) during 1962, totalling in all 1,460 in contrast to 1,455 in 1961. Deaths amounted to 218 in 1962 (158 in 1961) an increase of 60. Of 1,460 notifications in 1962, pulmonary deaths totalled 206 while 12 deaths were notified as non-pulmonary.

Infectious Hepatitis. Notifications decreased from 6,050 in 1961 to 3,202 in 1962. Deaths from the disease decreased from 34 in 1961 to 20 in 1962.

Venereal Disease

Gonorrhoea. Again in 1962, there was an increase (13·3 per cent.) in the incidence of gonorrhoea totalling in all 3,736 cases (3,284 males and 452 females), compared with 3,296 cases in 1961 (2,949 males and 347 females). Of the total cases notified in 1962, the Metropolitan area accounted for 3,444 cases or 92·5 per cent.

Syphilis. In contrast to gonorrhoea there was a significant decrease during 1962 in the number of notified cases of syphilis. A total of 447 cases (331 males and 116 females) were recorded in contrast to 569 (419 males and 150 females) in 1961. Of this total, 432 or 96·6 per cent. occurred in the Metropolitan area.

It is of interest to note that the percentage of gonorrhoea cases in the age group 15-19 in 1961 was, males 21·4 per cent., females 43·8 per cent., while in 1962 the percentages were 19·8 per cent. and 42·1 per cent. respectively. For syphilis in the same age group, the percentages in 1961 were 8 per cent. males and 21 per cent. females compared with 6 per cent. and 19 per cent. respectively in 1962.

During the year the number of serological tests carried out was 104,118, a fall of 35 over the 1961 figure, although the number of specimens submitted increased by 1,166 to a total of 27,653 compared with 25,987 in 1961.

Tuberculosis

The number of new cases of tuberculosis (all forms) notified during 1962, was 1,460 (1,040 males and 420 females), an increase of five over the 1961 figure. Mass X-rays by the Division revealed 213 cases; the Anti-Tuberculosis Association of New South Wales 288 cases; Private Practitioners 280 cases; Hospitals 275 cases; the Divisional Chest Clinic 146 cases; and Death Certificates 105 cases.

The number of films processed and examined during Mass Miniature Surveys increased from 250,175 in 1961, to 276,329 in 1962.

The number of X-rays taken at the Chest X-ray Centre, 697 George Street, Sydney, was 38,876, an increase of 3,356 over the figure for 1961.

The activities of the Epidemiological Section of the Division included the Tuberculin Skin Testing of 207,929 children in 1,106 schools and 4,199 other persons; the processing and examination of 53,314 X-rays; and the B.C.G. vaccination of 869 aborigines and 115 contacts of tuberculosis at risk. This section was responsible for the detection of 34 active cases of tuberculosis during the year.

The Visiting Nursing Service performed a total of 28,560 domiciliary visits in the Metropolitan area, compared with 31,576 in 1962. The number of cases receiving streptomycin fell from 1,248 in 1961 to 912 in 1962.

The number of cases receiving Tuberculosis Allowance has fallen from 1,503 in 1956 to 540 in 1962. In 1961, the figure was 690.

Poliomyelitis

In the 1962 Report a detailed account is given of the poliomyelitis outbreak in New South Wales during 1961-62. This outbreak was brought under control by an intensification of the vaccination campaign to an unprecedented level. The peak of the outbreak occurred in January, 1962, which was followed by a slow decline and then a notably abrupt subsidence, with only five cases occurring over the last eight months of the year.

The confirmed number of cases of poliomyelitis, occurring in 1962, was 218 with 12 deaths, compared with 158 and 13 deaths in 1961. The outbreak over the two years 1961-62 therefore caused, in all, 376 cases and 25 deaths.

In the Report valuable tables are given including tables relating to the month of onset of the disease in each case; a table of deaths is also shown in the months in which they occurred; the sex and age grouping of notifications is also tabulated; and tables of attack rates per 100,000 persons in each five year age group are given.

Of particular significance was the high incidence of the disease in the group of children under 10 years of age, but in this group a relatively low case mortality of 3·2 per cent. occurred. Between 20-34 years of age, however, a significant secondary peak of incidence occurred with a much higher case mortality of 12·9 per cent.; while from 35 years of age onwards the incidence of the disease fell rapidly.

Of 240 cases, in which a polio virus was isolated, Type I virus was identified in 206 cases (85·8 per cent.) of which 11 were fatal, while Type 3 virus was identified in 34 cases (14·2 per cent.) of which one was fatal. In no case was Type 2 virus identified.

The quantities of poliomyelitis vaccine issued in accordance with requests from Local Authorities and medical practitioners, from the second half of 1961 to the second half of 1962, was 2,241,622 doses.

Leprosy

Two cases of leprosy were admitted to the Lazaret during 1962, while two patients were discharged. In all there were 8 patients in the Lazaret at the end of the year.

The net cost to the State in respect of maintenance was £9,392 3s. 6d., while an average of £1,472 1s. 10d. was the cost per inmate per annum.

PUBLIC HEALTH ADMINISTRATION

Government Analyst

A total of 30,904 samples were examined during the year as against 28,833 in 1961. These were distributed as follows: Pure Food Act 18,873; Government Institutions and Statutory Authorities 5,182; food bacteriology 246; water bacteriology 3,891; and miscellaneous examinations 3,712.

The largest amount of samples examined was 10,348 samples of milk. In country areas while there were fewer samples of milk showing a fat deficiency in 1962 (1·63 per cent. compared with 3·43 per cent. in 1961), there was a large increase in the percentage of samples showing added water (2·73 per cent. compared with 1·64 per cent. in 1961). In the Metropolitan area the adulteration of milk (1·56 per cent.) approximated the figure for 1961 (1·52 per cent.).

The number of exhibits examined, relevant to deaths which were the subject of Coronial Inquiries was 514, compared with 409 in 1961. The Police Department also requested 342 investigations in the detection of crime.

During 1962, there was an overall increase of 17 per cent. in the routine sampling of water and sewage examinations, while an investigation into the pollution of the George's River and its tributaries was commenced. It was found that sullage water from unsewered sections of the Metropolitan area was responsible for heavy pollution of the River. Sullage water from 23 different streets in these areas showed a dangerously high level.

Miscellaneous bacteriological examinations included 1,565 prostatic smears for gonorrhoea; 613 cultures for drug sensitivity; while 534 rats were examined for plague.

Pure Food

A total of 9,335 samples comprising a wide variety of food and drugs were submitted for analysis during the year. Details of the results of this sampling will be found in the Report, but it is of interest to note that 871 samples were found to be adulterated and successful legal proceedings were instituted in 657 cases resulting in the imposition of £6,502 19s. 0d. in fines and costs. The total number of prosecutions including the above and prosecutions for insanitary premises or general breaches of the Pure Food Act, 1908, as amended, amounted to 913 with fines and costs totalling £9,336 9s. 0d.

Other activities of the Branch included 9 amendments to the Regulations; the re-introduction of the Chief Food Inspector's weekly radio talks on food and food traders problems; while staff conferences were held in connection with decentralization of the work of the Pure Food Inspectors in Districts throughout the State.

A summary of the work carried out by the Branch since the Pure Food Act became operative in October, 1909 to 31st December, 1962, is given in the Report and during this period it is reported that 492,383 premises have been inspected; 660,685 samples have been taken (35,462 of these were found to be below standard); 34,237 prosecutions have been instituted with £183,614 imposed in fines and costs.

Health Inspection

In the middle of the year, decentralization caused a change whereby the Chief Health Inspector of the Department became responsible to the Metropolitan Medical Officer of Health for health inspection work carried out in the Metropolitan Health District.

Routine work carried out, during the year, included the inspection of 306 shops and buildings; the inspection of 9,382 septic tank sites; the approval of 7,214 applications for septic tanks (654 applications were disapproved); the inspection of 477 septic tank installations; the investigation of 669 nuisances; the collection of 399 specimens of faeces in the investigation of certain communicable diseases; the inspection of 844 noxious trade premises; and the institution of 31 prosecutions with fines and costs totalling £399.

The number of inquiries, from Solicitors, as to whether land was affected by Section 55 of the Public Health Act (Unhealthy Building Land) showed an increase from 56,700 in 1961, to 65,957 in 1962. The revenue accruing from these searches totalled £16,489.

During the year, the Chief Health Inspector became a member of a Committee formed to consider the revision of the Public Health Act, 1902-1952, and the Regulations made thereunder.

Private Hospitals and Rest Homes

In New South Wales there are now 210 licensed Private Hospitals and 278 licensed Rest Homes; an increase of 2 and 16 respectively over those in operation in 1961.

The number of beds available in Private Hospitals was 4,295 while cots numbered 231; an increase of 164 and 40 respectively during 1962.

The number of beds available in Rest Homes totalled 6,339, and cots numbered 58; an increase of 719 beds during 1962 (the number of cots remained the same as those available in the previous year).

There has been considerable improvement in a large number of premises during the year and overcrowding does not now exist. Complaints from the public have been few.

Forensic Medicine

In July, 1962, the Medico-Legal Laboratory moved to quarters over the City Coroner's Court at 102 George Street, Sydney; this building also houses the City Morgue. By this move the scattered accommodation of past years was centralised, which has proved most satisfactory from an administration aspect.

The number of medical examinations carried out by the officers of the Division amounted to 2,884 for the Police Department and 3,121 for various other Government Departments.

The total number of bodies examined for the City Coroner was 2,210, which is approximately the same as the number examined in 1961, while 178 examinations of criminal assault cases were performed; an increase of 34 over the 1961 figure.

A total of 3,633 vaccinations (Smallpox) were performed and 6,643 International Certificates were issued.

Admissions to Hospitals and Homes by the Hospitals Admission Section of the Division numbered 1,788 to Metropolitan Hospitals; 3,585 to State Hospitals and Homes; and 716 to Rest Homes.

Publicity

The functions of the Branch during 1962 were to promote health education and public relation programmes, using all possible means of advertising media.

Local Authorities and Schools received the main bulk of the 25,385 posters; 791,772 pamphlets; and 125,140 booklets which emanated from the Branch during the year. In addition, 108,906 medical record cards and 505,796 poliomyelitis cards were distributed.

Film screenings on health subjects to audiences totalling 77,936 were made; while film loans numbered 2,032. Two films were produced during 1962. One " The Happy Years " covers the work of the School Medical Service and the other " Gates Without Walls ", produced at North Ryde Psychiatric Centre, demonstrates the value of recreation therapy in the treatment of mental illness.

The *Health* Journal increased its circulation to 13,000 copies per quarter.

PREVENTIVE MEDICINE

Maternal and Baby Welfare

There was a slight increase in deaths under one year of age (infant mortality) during 1962, when the figure rose to 1,825 with a rate of 21·36 per 1,000 live births, compared with 1,800 deaths and a rate of 20·84 per 1,000 live births in 1961.

Maternal deaths during the year totalled 29 and this was the lowest number of maternal deaths ever recorded in the State. In 1961 the figure was 43. Of more significance is the comparison between the figures for 1935 and 1962. In these years there were 44,676 live births and 282 maternal deaths and 85,439 live births with 29 maternal deaths respectively. Three of the maternal deaths in 1962 were due to criminal abortion compared with 9 in 1961.

There was a net increase of 11 Baby Health Centres throughout the State with 1,153,766 attendances.

Attendances at Pre-natal Clinics numbered 15,150—an increase of 2,923 over the figure for 1961; while 1,369 children attended the Paediatric Clinics.

Early in 1962 a report with recommendations, following a Survey of Infant and Perinatal Deaths Registered in New South Wales in 1958, was presented to the Director-General of Public Health.

The Special Medical Committee Investigating Maternal Mortality published an article in the Medical Journal of Australia (24th November, 1962) in connection with deaths under anaesthesia in obstetric practice that occurred during 1957-1960.

Occupational Health

The Division increased its major activities during the year including the number of blood slides examined in industrial premises for lead poisoning 7,042 (3,386); Industrial Health visits 1,580 (1,172); and Air Pollution visits 430 (304). (The figures in parenthesis are 1961 totals). There was a slight decrease in the number of patients examined and the number of slides examined for lead poisoning at Divisional Headquarters.

During the year 33 articles were published for various Journals associated with Occupational Health; 7 Departmental Publications were completed; and various lectures on Occupational Health were given.

Specific activities carried out during the year included advice given on Medical Services at the Waterfront; and investigations into industrial dermatitis, alkali mist, dust, carbon monoxide, hydrogen sulphide, trichlorethylene, carbon tetrachloride, underground explosives and welding hazards.

Factories were visited in connection with Man/Machine Relationship; Occupational Climatology and Human Physiological Response; Energy Demands of Work; Heat Transmission of Safety Helmets; and Industrial Kinesiology.

In the field of Agricultural Health, investigations were carried out in connection with pesticides; factories formulating insecticides; the cholinesterase test; the use of malathion in the treatment of bulk wheat; and fumigation with methyl bromide.

Investigations were carried out in 45 industries with a high noise level, while 114 visits involving 38 factories were made in connection with noise in residential areas.

The Officer-in-Charge of the Radiation Branch visited the United Kingdom and the United States on a World Health Organisation Fellowship. The activities of this section of the Division during 1962, included the licensing of 528 persons using radioisotopes (an increase of 148 over the 1961 figure); 220 field inspections; the drawing up of a " Code of Practice for Industrial Radiography "; investigations into the use of Luminous Substances and other unlicensed radioactive substances; and Tracer Studies. The Film Badge Service has now 421 organisations and 2,000 persons receiving films compared with 374 and 1,500 respectively in 1961.

Legislation reviewed included the amendments to the Regulations of the New South Wales Radioactive Substances Act.

The New South Wales Clean Air Act was proclaimed in May, 1962, and an Air Pollution Branch of the Division was formed and extra staff recruited. Following the proclamation of the Act, the Air Pollution Advisory Committee was set up in July, 1962, and six meetings took place in order to prepare draft Regulations under the Act. Under joint sponsorship of the Department of Public Health and the University of New South Wales the first Conference on the Problems of Air Pollution was held at the beginning of the year. Monitoring stations continued to function in 1962, and in Newcastle there was a significant reduction in dust-fall compared with 1961.

School Medical Service

The number of pupils fully examined and reviewed in 1962 amounted to 276,385—an increase of 16,168 examinations during the year. Expressing this as a percentage of all school children and children fully examined and reviewed in 4th Grade and 4th year the figure given in the Report is 24·43 per cent. compared with 23·96 in 1961.

The scheme for the medical examination of country school children by local practitioners and nurses, was operating in 90 areas at the end of the year (82 in 1961).

Excluding dental defects, defects of a notifiable standard were found in 33·10 per cent. of children fully examined (32·02 per cent. in 1961). It was found necessary to notify 67 per cent. of these defects to parents or guardians; while parents of 20·8 per cent. of the children, fully examined, were notified that the oral condition of their children needed urgent attention or that the oral condition was detrimental to the child's health (19·2 per cent. in 1961).

The number of parent interviews carried out by Medical Officers totalled 15,368 compared with 12,674 in 1961.

During the year, special follow-up visits to schools in the Metropolitan area were made and advice given to teachers on the management of children suffering from complaints arising, in the main, from brain-damage and epilepsy.

The Child Health Centres at Forest Lodge and Parramatta continued to function satisfactorily, while a new Centre was opened during 1962, at Bexley. The Newcastle Child Health Centre is reported on in the Medical Officer's of Health District Report for Newcastle. In the 3 Centres reported on in this Report 23,961 children were fully examined; 9,162 children were reviewed; while 6,011 parent interviews were held.

An analysis of 509 new cases of parent and child interviews at the Forest Lodge Centre showed that 331 (65 per cent.) children attended because of mental health problems; 116 (22·7 per cent.) had physical defects; while 62 (12·1 per cent.) had defects of doubtful or mixed origin.

Seven nursery schools in the Forest Lodge Centre area were visited by a Medical Officer on 36 occasions, during which visits 588 medical examinations were carried out and 222 parents were interviewed.

At the beginning of 1962, the Child Guidance Clinic at the Forest Lodge Child Health Centre became a full time Clinic.

A survey of the immunisation status of school pupils was carried out during 1962. This showed that infants were 77·0 per cent. immunised against poliomyelitis; 80·5 per cent. immunised against diphtheria; 72·3 per cent. immunised against pertussis; and 67·7 per cent. immunised against tetanus. In secondary schools the immunisation figures were 85·0 per cent. against poliomyelitis; 88·4 per cent against diphtheria; 73·6 per cent. against pertussis; and 51·0 per cent. against tetanus.

Regular visits, by Medical Officers of the Service, continued to be paid to Special Schools during 1962, and the liaison between the Division of Guidance and Adjustment, Department of Education, was further consolidated. In all, 101 visits were made to these Schools and 1,072 medical examinations were carried out.

An important development in Child Guidance work during the year, was the opening of the Bridge Road School, although the selection of children to attend the school presented some difficulty.

At the end of 1962 there were 12 full-time, 2 part-time and 1 Special Speech Therapy Clinics operating. Initial interviews increased from 671 in 1961 to 1,352 in 1962. The total number of cases treated was 1,115 compared with 887 in 1961.

The Hearing Clinic continued on a full-time basis throughout the year and 1,697 new cases were examined (997 boys and 700 girls); while 1,646 cases were reviewed (958 boys and 688 girls).

At the Asthma Clinic 225 children were examined, 76 of whom subsequently underwent treatment, while 1,092 consultations were made for those children already under treatment. The results of the work of this Clinic are most encouraging for approximately 70 per cent. of the children, after 2 years treatment or more have excellent (46·67) or very much improved (21·67) responses.

Medical Officers, from the Child Health Centre at Forest Lodge and Parramatta visited five Baby Health Centres in connection with the medical examinations of pre-school children which constituted an expansion of this particular service in 1962.

Decentralisation of the administration of the School Medical Service has been accomplished during the year and is working well. District School Medical Service Reports will be found in the Annual Reports of the Medical Officer's of Health.

Dental Services

Five Dental Officers and 5 Dental Assistants positions were created in 1962. The staff of the Division, at the end of the year, consisted of 41 full and 4 part-time Dental Officers and 28 Dental Assistants.

The output of work in the Division again increased during the year. School children examined in 740 schools numbered 113,124, and from these examinations 40,711 extractions; 73,680 fillings; and 73,945 other treatments, including prophylaxis, were found necessary. This is the greatest number of children ever to receive treatment since the Service was instituted.

New Dental Clinics were opened at Wollongong, Adamstown, Parramatta, Hurstville and Naremburn, while three additional mobile Clinics were added to those already in service.

The Aerial Dental Service operated successfully in 1962, when 20,000 air miles and 6,000 road miles were travelled and Dental Officers treated 752 patients.

Dental Services to Government Institutions included 5,954 children treated in Child Welfare Homes; 9,791 patients treated in Mental Hospitals; and 2,503 patients treated in State Hospitals and Homes.

NUTRITION

Nutrition Section

Regular weekly articles, radio scripts, talks and tape recordings were made during 1962 in connection with dietary needs, while television appearances were made and special articles were written for Health Journals on cooking and diets.

Departmental publications revised included " Food and Nutrition " while a new pamphlet entitled " How to Lose Weight Wisely " was published.

Seven pre-natal clinics were attended weekly while the Clinics at Forest Lodge, Child Health Centre, for overweight children, was also attended.

A survey into the dietary habits of 700 young adults was made.

THE PHYSICALLY HANDICAPPED

The Consultative Council for the Physically Handicapped

In 1962, Dr. Mary Bertram, Medical Officer and Secretary retired and she was succeeded by Dr. R. W. D. Maxwell.

With the close of the year 1962, the Council completed 25 years of its existence. In December, 1937, the then Minister for Health appointed a " Consultative Council on Infantile Paralysis ", but in 1945 it was felt that the activities of the Council should be extended and, in that year, the Council came to be known as the " Consultative Council for the Physically Handicapped ".

A Sub-Committee was formed during the year to review the functions and activities of the Council and to make recommendations on its re-constitution. Recommendations by Council were subsequently submitted to the Minister for Health and approved. These included the appointment of a physician and a specialist with experience in rehabilitation; additionally 3 co-opted members were to be appointed. These 3 members were to represent the Australian Physiotherapy Association, the Australian Association of Occupational Therapists, and the Australian Association of Social Workers. (In 1962 all the above new appointments were made.)

Eleven meetings of Council were held during the year when applications for assistance in providing domiciliary physiotherapy and occupational therapy were considered and reports on the progress of patients were reviewed.

Topics of particular interest which were discussed in 1962 were the outbreak of poliomyelitis in New South Wales 1961-1962, and the occurrence of congenital malformations in infants associated with the taking of the drug Thalidomide during pregnancy.

During the year 79 new applications for assistance to patients by payment of fees for physiotherapy were approved.

HEALTH DISTRICTS

The North Western Health District was officially opened by the Minister for Health on the 27th July, 1962. A separate report on the health work carried out in this District is given in the text of this Report.

Metropolitan Health District

The population of the District at 30th June, 1962, was 2,334,440; an increase of 41,764 over the figure for 1961.

There were 46,608 live births equal to a rate of 19·95 per 1,000 of population.

Deaths numbered 22,491 equal to a rate of 9·62 per 1,000 of population.

The 4 main causes of death were Disease of the Heart (8,778); Malignant Neoplasm (3,246); Vascular Lesions affecting the Central Nervous System (3,034); and Accidents—poisoning and violence (1,446).

Maternal deaths numbered 18, equal to a rate of 0·39 per 1,000 live births.

Deaths under one year of age totalled 944, equivalent to a rate of 20·25 per 1,000 live births.

On 11th June, 1962, the Chief Health Inspector and Chief Food Inspector became responsible to the Metropolitan Medical Officer of Health for work carried out in the Metropolitan Health District.

Despite staff shortages a considerable advance was made in reducing stream pollution, particularly in the Georges and Cooks Rivers.

Thirty-three Government Institutions were inspected during the year including 11 State and Mental Hospitals; 20 Child Welfare Institutions; and 2 Prison Department Institutions.

Newcastle Health District

The population of the District at 30th June, 1962, was estimated at 474,590. There were 10,153 live births equal to a rate of 21·39 per 1,000 of population.

Deaths numbered 4,818 equal to a rate of 10·15 per 1,000 of population. Deaths under one year numbered 240 equal to a rate of 23·64 per 1,000 live births.

Stillbirths totalled 149 equal to a rate of 0·31 per 1,000 of population and representing 1·45 per cent. of all births (live and still). The total number of communicable diseases notified during the year was 641 with 46 deaths.

An investigation of conditions in Lake Macquarie Shire was made in connection with garbage disposal while a sanitary survey was completed of the City of Greater Cessnock.

The number of septic tank sites approved in 1962 was 1,791, while 130 inspections of Unhealthy Building Land were made.

The Child Health Centre at Newcastle examined a total of 626 cases from 8 referring agencies. The work of the Psychiatrists, Psychologists and Social Workers, at the Centre, combined to make the results of treatment most satisfactory.

The Speech Therapy Clinic was attended by 1,283 patients and the Hearing Clinic, in 56 sessions, examined 589 persons.

School Medical Service. Full examinations of school children, in 356 schools, totalled 24,701 and reviews numbered 7,795. Parents interviewed amounted to 1,992.

Tuberculosis Control. Clinic sessions numbered 490, when 9,556 attendances were made. Visits to homes totalled 3,885.

Maternal and Baby Welfare. During 1962 in 56 Baby Health Centres 11,884 babies were seen, and attendances amounted to 104,412.

Pure Food Act. The work of the Food Inspectors included: samples taken 642; inspections made 1,338; notices served 307; food seized and destroyed 9,768 lbs.; while prosecutions instituted numbered 56, with £530 in fines and costs.

South Coast Health District

The population at 30th June, 1962, was estimated at 295,480. There were 7,238 live births equal to a rate of 24·50 per 1,000 of population.

Deaths numbered 2,256, equal to a rate of 7·64 per 1,000 of population.

Deaths under one year numbered 163 equal to a rate of 22·52 per 1,000 live births.

Stillbirths totalled 94 equal to a rate of 0·32 per 1,000 of population and representing 1·28 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 376 with 34 deaths.

During 1962, sanitary surveys of the Shire of Mumbulla and the Municipality of Bombala were undertaken and recommendations were sent to these Authorities for their guidance and attention. Additionally, surveys of camping areas and caravan parks were made.

School Medical Service. Children fully examined in 160 schools numbered 16,192, while reviews numbered 8,869. Notifiable defects totalled 2,025, out of which total 1,742 children were notified as suffering from speech (55); eye (1,031); and ear (656) defects.

The Speech Clinic functioned satisfactorily and during the year there were 996 individual attendances.

Tuberculosis Control. Attendances at 6 Centres in the District totalled 6,402, while 3,156 X-rays were taken. New patients numbered 457, while the number of contacts examined amounted to 2,152. Home visits totalled 1,305.

Pure Food Act. A large increase in the number of prosecutions undertaken in 1962, compared with the previous year was due to a greater percentage of adulteration of foodstuffs and more frequent sampling. A total of 91 prosecutions were made with £777 10s. 0d. in fines and costs in 1962, compared with 21 and £221 5s. 0d. respectively in 1961.

Maternal and Baby Welfare. All 47 Centres in the District were inspected, while a new Centre was opened at Warrawong. Attendances at the Centres totalled 91,007.

Western Health District

The population of the District at 30th June, 1962, was estimated at 273,670. There were 6,977 live births equal to a rate of 25·49 per 1,000 of population.

Deaths numbered 2,511 equal to a rate of 9·18 per 1,000 of population.

Deaths under one year numbered 163 equal to a rate of 23·36 per 1,000 live births.

Stillbirths totalled 103 equal to a rate of 0·38 per 1,000 of population and representing 1·45 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 501 with 25 deaths.

Further decentralisation took place in May, 1962, when the activities of the Division of Maternal and Baby Welfare in the District were placed under the control of the Medical Officer of Health.

A survey of the water at Farmers Creek was made to detect pollution. Several samples were taken; the survey is continuing.

Sites for a High School and a Prison Farm at Emu Plains were chosen.

Environmental Hygiene inspections included the inspection of 762 septic tank and closet sites; 115 sewerage treatment works; 129 garbage and sanitary depots; and 131 noxious trade premises.

School Medical Service. Sixty schools were inspected during the year and 4,385 children were fully examined while 2,318 were reviewed. Parent interviews totalled 308.

Tuberculosis Control. The number of attendances at Clinics totalled 6,628; domiciliary visits numbered 2,202; Mantoux tests were carried out on 434 patients; while 61 patients received B.C.G. vaccine.

Pure Food Act. Inspections and complaints totalled 1,364; hotels inspected numbered 40; samples taken amounted to 194; notices served totalled 211; while 75 prosecutions were instituted with £747 10s. 0d. in fines and costs.

North Coast Health District

The population of the District at 30th June, 1962, was estimated at 155,000.

There were 3,394 live births equal to a rate of 8·74 per 1,000 of population.

Deaths numbered 1,355 equal to a rate of 8·74 per 1,000 of population.

Deaths under one year numbered 73 equal to a rate of 21·51 per 1,000 live births.

Stillbirths totalled 34, equal to a rate of 0·22 per 1,000 of population and representing 0·99 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 196 with 13 deaths.

During 1962, there was a considerable increase in environmental hygiene work carried out in the District, due to the appointment of an additional Health Inspector. Inspectorial work, including inspection of septic tank sites, noxious trades, sanitary depots, business premises, water supplies and water sampling increased from 851 inspections in 1961, to 1,183 in 1962.

School Medical Service. The School population numbered 38,831 and during 1962, in 357 schools, 15,705 pupils were fully examined and 5,122 were reviewed when 8,587 notifiable defects were found; or 41 per cent. of the children examined. Dental caries, defects of vision and hearing were the most common defects found.

Tuberculosis Control. Attendances at the Clinics in 1962, numbered 5,092 which approximates the figure attending in 1961.

Pure Food Act. A total of 539 premises were inspected during the year and 63 prosecutions under the Pure Food Act were instituted and completed.

North Western Health District

The population of the District at 30th June, 1962, was estimated at 153,290.

There were 3,953 live births equal to a rate of 25·79 per 1,000 of population.

Deaths numbered 1,303 equal to a rate of 8·50 per 1,000 of population.

Deaths under one year numbered 100 equal to a rate of 25·30 per 1,000 live births.

Stillbirths totalled 52 equal to a rate of 0·34 per 1,000 of population and representing 1·30 per cent. of all births (live and still).

The total number of communicable diseases notified during the year was 69 with 11 deaths.

Environmental hygiene inspections included 69 Abattoirs, slaughtering premises and poultry farms; 84 dwellings (including hotel premises); 80 septic tank sites; 83 noxious trade premises; 22 dairies; and 21 water supplies.

Seven Local Authorities in the District agreed to the fluoridation of their water supplied.

School Medical Service. Although there are 25,000 school children in the District only eight Shire and three Council sponsored schemes, for the medical examination of school children, were in operation at the end of the year.

Tuberculosis Control. The number of new patients seen was 224; while the total number of patients attending the Clinic was 1,177. Home visits numbered 85, and B.C.G. vaccinations, given to contacts at risk, totalled 182.

Pure Food Act. Food premises inspected totalled 300, additionally 65 notices were served. Food samples taken amounted to 113; while 1,200 lbs. of foodstuffs were seized and destroyed. Two prosecutions were instituted with £17 in fines and costs.

Broken Hill Health District

The population at 30th June, 1962, was estimated at 30,810.

There were 701 live births.

Deaths during the year numbered 247.

The number of communicable disease notifications was 23 with 2 deaths.

There was a marked decrease in the number of infectious hepatitis notifications during 1962, the figure was 10 with no deaths compared with 154 and one death in 1961.

General work in the District during the year included 33 post mortem examinations; 43 attendances at Court; 80 examinations and interviews; 124 Government Examinations (Public Service Board, Department of Railways and the Department of Education).

Tuberculosis Control. The number of new patients examined at the Anti-Tuberculosis Clinic was 30, while total attendances amounted to 52.

CLINICAL PATHOLOGY AND MEDICAL RESEARCH

The Institute of Clinical Pathology and Medical Research

During 1963, the staff of the Institute was increased by 40 per cent. following the establishment of the new Department of Exfoliative Cytology; increased accommodation in the form of new laboratories for Serology and Histopathology; and the expansion of the departments of Biochemistry, Haematology and Bacteriology.

The most remarkable feature of the year's activities was the sustained increase in the number of Clinical Pathology investigations carried out and the Institute is now filling a long-felt need for readily available diagnostic facilities for hospitals and medical practitioners. The total number of investigations completed was 115,761 compared with 77,449 in 1961. These included Histopathology 22,683; Haematology 15,291; Biochemistry 19,407; Bacteriology 38,028; Virology 4,418; Cytology 15,680; and Chorionic Gonadotrophin Assay 254.

In Bacteriology the heaviest burden of work still relates to the isolation and identification of Mycobacterium tuberculosis and to the performance of drug sensitivity tests on these organisms. A further refinement in the work on tuberculosis was the introduction, during the year, of guinea pig inoculation for all specimens of gastric aspirate. The demand for the Rose-Waaler tests for rheumatoid arthritis and the bacteriophage typing of Staphylococcus aureus continued to grow.

During haematological investigations all patients now have a full screening of haemoglobin; haematocrit; and blood-film examinations. The folic acid survey, commenced in 1961, was completed during the year and this procedure is now regularly carried out on the sera of selected cases. The demand for radioactive isotope investigation of blood disorders has about doubled during 1962.

In the field of biochemistry increases in the demand for estimations of serum electrolytes and proteins are worthy of note. A reasonable satisfactory method for the determination of serum protein-bound iodine was evolved during 1962.

Virological specimens from all suspected cases of poliomyelitis were submitted to the laboratories for virus isolation, while the Prince Henry Hospital and a few general practitioners submitted specimens from patients with a variety of infectious diseases of suspected viral origin. In all 259 viruses were isolated.

The department of Exfoliative Cytology was opened in June, 1962, and the Department of Public Health, in New South Wales, can claim with justifiable pride to have launched the first large-scale attack on cancer in Australia. By the end of the year 15,504 smears had been examined and 85 " surprise positives " were found in women who had no signs or symptoms of cancer and the histological confirmation of early cancer of the cervix has been made in 61 of these cases.

Teaching and Research work again formed a large proportion of the work of the Institute. The former included the training of Medical Graduates as Pathologists and the training of Laboratory Assistants and Microbiologists. Research work included surveys and estimations in Biochemistry; Haematology; Bacteriology; Histopathology; and Virology.

VITAL STATISTICS

Vital Statistics of New South Wales for the year 1962

POPULATION

The estimated population at the end of 1962 was 4,016,635, of whom 2,015,081 were males and 2,001,554 females. During the year the increase in population by excess of births over deaths was 48,578 and by migration 18,637, making a total increase for the year of 67,215. The estimated mean population for the year 1962 was 3,980,675.

The natural increase in the population during 1961 was 51,344 and the increase by migration was 25,031, making a total increase during that year of 76,375.

LIVE BIRTHS

The total number of live births was 85,439 equivalent to 21·46 per 1,000 of mean population, which rate is 1·2 per cent. below the average of the previous five years. Of this number 44,014 were males and 41,425 were females, the proportion being 106·25 males to 100 females.

In 1961 the number of live births was 86,392, equivalent to 22·06 per 1,000 of mean population.

Dividing the State into the Sydney Metropolitan Area and the Remainder of the State, there were in 1962, 43,509 births to mothers resident in the former and 41,930 in the latter, corresponding to rates of 19·61 and 23·79 respectively.

STILL-BIRTHS

The number of still-births registered was 1,099 (549 males and 550 females) which is 1·27 per cent. of all births, live and still, and equal to 0·28 per 1,000 of population. In 1961 the figure was 1,306, which was 1·49 per cent. of all births live and still and was equal to 0·33 per 1,000 of the population.

In the Sydney Metropolitan Area there were in 1962, 530 still-births and in the Remainder of State 569, representing 1·20 and 1·34 per cent. of all births, live and still, in the respective divisions.

DEATHS

The deaths during the year numbered 36,861 equivalent to a rate of 9·26 per 1,000 of population. This rate is 2·0 per cent. above the average of the previous five years.

In 1961 there were 35,048 deaths equivalent to a rate of 8·95 per 1,000 of mean population.

The total in 1962 includes 20,633 males and 16,228 females, equivalent to a rate of 10·33 and 8·18 respectively per 1,000 of mean population. The rate in the Sydney Metropolitan Area was 9·77 per 1,000 and in the Remainder of the State, 8·61.

Of the 36,861 people who died during the year, 2,178 were under 5 years of age; 11,771 were aged 5 to 64 years and 22,912 were 65 years and over. The rates per 1,000 of population in the groups under and over 5 years were 5·32 and 9·71 respectively.

Comment on some causes of death during 1962, with comparisons over the last five years, follows " Causes of Deaths "—see p. 23.

INFANTILE MORTALITY

The number of children under one year of age who died was 1,825, equal to 21·36 per 1,000 live births. To this total the Sydney Metropolitan Area contributed 876 or 20·13 per 1,000 live births and the Remainder of the State 949 or 22·63 per 1,000 live births. The rate for 1962 is 1·6 per cent. below the average of the previous five years. Of the deaths under 1 year of age, 1,160 or 64 per cent. occurred under 1 week; 1,321 or 72 per cent. under 1 month and 1,482 or 81 per cent. under 3 months.

In 1961 the infantile mortality figure was 1,800, which was equivalent to a rate of 20·84 per 1,000 live births.

CAUSES OF DEATHS, 1962

(Classified in accordance with the Seventh Revision of the International List of Diseases and Causes of Death.)

The principal causes of death in 1962 are shown in the statements following Table I and reference is made below to the more prominent of these causes.

Infective and Parasitic Diseases (International Code Nos. 001-138)—Deaths in 1962 from infective and parasitic diseases numbered 393, representing a rate of 99 per million of mean population. Included in this section is Tuberculosis (Code Nos. 001-019), which was responsible for 218 of the deaths, equal to a rate of 55 per million of mean population. The deaths from tuberculosis comprised 206 from Tuberculosis of the Respiratory System (Code Nos. 001-008) and 12 from other forms of Tuberculosis (Code Nos. 010-019), the rates per million of mean population being 52 and 3 respectively. Of the persons dying from tuberculosis of the respiratory system, 176 were males and 30 females, the rates per million of each sex being 88 and 15 respectively.

Malignant Neoplasms (Code Nos. 140-199) and Neoplasms of Lymphatic and Haematopoietic Tissue (Code Nos. 200-205)—Deaths from the above causes numbered 5,257 equal to a rate of 1,321 per million of mean population. The deaths of males numbered 2,893 and of females 2,364, the rates per million of each sex being 1,449 and 1,192 respectively. Of the total deaths, malignant neoplasms caused 4,773 and neoplasms of lymphatic and haematopoietic tissue 484, the mortality rate being 1,199 and 122 per million respectively.

Vascular Lesions Affecting Central Nervous System (Code Nos. 330-334)—In 1962, vascular lesions affecting the central nervous system caused 4,939 deaths, equal to a rate of 1,241 per million of mean population. Of the total 2,186 were males and 2,753 females corresponding respectively to rates of 1,095 and 1,388 per million of mean population.

Diseases of the Circulatory System (Code Nos. 400-468)—Diseases of the circulatory system were the cause of 15,667 deaths, the rate being 3,936 per million of mean population. Of the total, 8,950 were males and 6,717 females, corresponding respectively to rates of 4,482 and 3,386 per million of each sex.

Of the total deaths due to disease of the circulatory system, Rheumatic Fever and Chronic Rheumatic Heart Disease (Code Nos. 400-416) caused 273, equal to a rate of 69 per million.

Arteriosclerotic and Degenerative Heart Disease (Code Nos. 420-422) accounted for 11,954 deaths, the mortality rate being 3,003 per million of mean population, deaths of males from this cause numbering 7,170 and females 4,784, the corresponding rates being 3,591 and 2,412 per million of each sex.

Other diseases of the heart (Code Nos. 430-434) caused 1,353 deaths, equal to a rate of 340 per million.

Hypertensive Disease (Code Nos. 440-447) caused 1,007 deaths, the rate being 253 per million.

Deaths due to other diseases of the circulatory system numbered 1,080, equal to a rate of 271 per million.

Bronchitis (Code Nos. 500-502) and Pneumonia (Code Nos. 490-493)—In 1962, bronchitis was the cause of 804 deaths, comprised of 664 males and 140 females. Corresponding rate for males was 333, for females 71, and for persons 202 per million of mean population.

Of the 1,202 deaths from pneumonia, 641 were of males and 561 of females, and respective rates were 302, 321 and 283 per million of mean population.

Nephritis and Nephrosis (Code Nos. 590-594)—During the year there were 919 deaths due to Diseases of the Genito-urinary System (Code Nos. 590-637), of which 348 were caused by nephritis and nephrosis. The mortality rate for nephritis and nephrosis was 87 per million of mean population, for males 95 per million and for females 80 per million.

Mortality of Infants—Table XIII on p. 28 shows the number of deaths of children under 1 year of age and mortality rate per 1,000 live births for the principal causes of deaths.

ARTERIOSCLEROTIC AND DEGENERATIVE HEART DISEASE

It will be seen from the Table below that there is a continuing rise in deaths from the above diseases; the rates per million of mean population continue also to rise. Approximately twice as many males die from these diseases as females.

Table I—Deaths from Arteriosclerotic and Degenerative Heart Disease (Codes 420-422)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Persons	Females	Persons
1958	5,720	3,747	9,467	3,075	2,041	2,561
1959	6,416	4,123	10,539	3,389	2,206	2,801
1960	6,453	4,426	10,879	3,344	2,324	2,837
1961	6,626	4,401	11,027	3,361	2,263	2,816
1962	7,170	4,784	11,954	3,591	2,412	3,003

VASCULAR LESIONS AFFECTING THE CENTRAL NERVOUS SYSTEM

The main diseases coming under this heading are Subarachnoid Haemorrhage, Cerebral Haemorrhage and Cerebral Thrombosis and Cerebral Embolism.

There was an increase of 136 persons dying from vascular lesions affecting the central nervous system over the 1961 figure; the rates have correspondingly increased. Approximately one-third more females die of these diseases than males which is most probably due to the greater longevity of the female.

Table II—Deaths from Vascular Lesions Affecting the Central Nervous System (Codes 330-334)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	1,998	2,493	4,491	1,074	1,358	1,215
1959	2,092	2,705	4,797	1,105	1,447	1,275
1960	2,184	2,656	4,840	1,132	1,395	1,262
1961	2,100	2,703	4,803	1,065	1,390	1,227
1962	2,186	2,753	4,939	1,095	1,388	1,241

NEOPLASMS—MALIGNANT AND OTHERWISE

The number of persons dying from the above diseases increased in all by 79 over the 1961 figure but there were 21 fewer female deaths, while male deaths increased by 100. The above deaths include malignant diseases of the lung, which have been further dissected in Table IV on p. 25.

Table III—Deaths from Neoplasms, Malignant and Otherwise (Codes 140-205)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	2,650	2,221	4,871	1,424	1,210	1,318
1959	2,676	2,296	4,972	1,413	1,228	1,322
1960	2,827	2,264	5,091	1,465	1,189	1,328
1961	2,832	2,425	5,257	1,437	1,247	1,343
1962	2,932	2,404	5,336	1,468	1,212	1,340

MALIGNANT NEOPLASMS OF THE LUNG

There was an increase of 49 male deaths from malignant neoplasms of the lung; while female deaths fell by eight during 1962.

TABLE IV—DEATHS FROM MALIGNANT NEOPLASMS OF THE LUNG (INCLUDING BRONCHUS TRACHEA AND PLEURA (CODES 162 AND 163))

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	514	63	577	276	34	156
1959	544	85	629	287	45	167
1960	572	84	656	296	44	177
1961	626	94	720	318	48	184
1962	675	86	761	338	44	191

RESPIRATORY DISEASE

During the year under review there has been a marked increase in the number of deaths from pneumonia while the rate has also risen significantly—Table V.

Deaths from bronchitis have also increased considerably as has the rate—Table VI.

TABLE V—DEATHS FROM PNEUMONIA (CODES 490-493)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	713	479	1,192	383	261	323
1959	894	667	1,561	472	357	415
1960	747	537	1,284	387	282	335
1961	589	481	1,070	299	247	273
1962	641	561	1,202	321	283	302

TABLE VI—DEATHS FROM BRONCHITIS (CODES 500-502)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	279	86	365	150	47	99
1959	378	116	494	200	62	131
1960	452	107	559	234	56	146
1961	517	91	608	262	47	155
1962	664	140	804	333	71	202

DEATHS FROM MOTOR VEHICLE AND OTHER ACCIDENTS

The total number of deaths from motor vehicle accidents increased by 34 during 1962 while the rate also increased; 29 of these were females.

There has also been an increase of female deaths from all other accidents and a proportionate fall in male deaths (see Table VIII).

TABLE VII—DEATHS FROM MOTOR VEHICLE ACCIDENTS (CODES E810-E835)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	659	181	840	354	99	227
1959	695	207	902	367	111	240
1960	742	256	998	385	134	260
1961	703	205	908	357	105	232
1962	708	234	942	355	118	237

Table VIII—Deaths from all Other Accidents (Codes E800-E802, E840-E902)

Year	Number of Deaths			Rate per Million Mean Population		
	Males	Females	Persons	Males	Females	Persons
1958	617	300	917	332	163	248
1959	720	342	1,062	380	183	282
1960	704	390	1,094	365	205	285
1961	738	364	1,102	374	187	281
1962	697	432	1,129	349	218	284

ACUTE ANTERIOR POLIOMYELITIS

The epidemic of poliomyelitis which began in 1961 continued during 1962 until March, when there was a rapid subsidence of the disease. In all, during the year, there were 218 cases and 12 deaths.

Table IX—Acute Anterior Poliomyelitis Notifications with Deaths—1958-1962

Year	Confirmed Cases	Deaths
1958	11	..
1959	16	2
1960	9	2
1961	158	13
1962	218	12

INFECTIOUS HEPATITIS

Infectious hepatitis notifications have fallen appreciably during 1962. The Table below compares the figures in the State over the past five years.

Table X—Infectious Hepatitis Notifications with Deaths, 1958-1962

Year	Notifications	Deaths
1958	3,261	17
1959	3,183	29
1960	4,925	20
1961	6,050	34
1962	3,202	20

DIPHTHERIA

There has been a decrease in the number of cases of diphtheria notified during 1962, while one death again occurred.

Table XI—Diphtheria Notifications with Deaths, 1958-1962

Year	Notifications	Deaths
1958	28	1
1959	14	3
1960	10	..
1961	19	1
1962	9	1

Table XII—Causes of Death, New South Wales, 1962

International Code No.	Cause of Death	Number of Deaths			Rate Per Million of Mean Population		
		Males	Females	Persons	Males	Females	Persons
001-138	Infective and parasitic diseases	290	103	393	145	52	99
001-008	Tuberculosis of respiratory system	176	30	206	88	15	52
010	Tuberculosis of meninges and central nervous system	1	....	1	1	....	....
011-019	Tuberculosis, other forms	7	4	11	4	2	3

CAUSES OF DEATH, NEW SOUTH WALES, 1962—*continued*

International Code No.	Cause of Death	Number of Deaths			Rate per Million of Mean Population		
		Males	Females	Persons	Males	Females	Persons
020-029	Syphilis and its sequelae	23	9	32	12	5	8
040-041	Typhoid and paratyphoid fever	....	....	....	....	....	....
045-048	Dysentery	2	....	2	1	....	1
050	Scarlet Fever	1	....	1	1	....	....
052	Erysipelas	1	1	2	1	1	1
055	Diphtheria	1	....	1	1	....	....
056	Whooping cough	....	1	1	....	1	....
057	Meningococcal infections	10	7	17	5	4	4
061	Tetanus	7	2	9	4	1	2
080	Acute poliomyelitis	9	5	14	5	3	4
081	Late effects of acute poliomyelitis	....	1	1	....	1	....
082	Acute infectious encephalitis	9	5	14	5	3	4
083	Late effects of acute infectious encephalitis	....	2	2	....	1	1
085	Measles	4	1	5	2	1	1
092	Infectious hepatitis	12	8	20	6	4	5
Residual	Other infective and parasitic diseases	27	27	54	14	14	14
140-239	Neoplasms	2,932	2,404	5,336	1,468	1,212	1,340
140-199	Malignant neoplasms	2,609	2,164	4,773	1,307	1,091	1,199
200-205	Neoplasms of lymphatic and haematopoietic tissue	284	200	484	142	101	122
210-239	Other neoplasms	39	40	79	20	20	20
240-289	Allergic, endocrine system, metabolic and nutritional diseases	330	428	758	165	216	190
260	Diabetes mellitus	216	302	518	108	152	130
280-286	Avitaminoses and nutritional deficiency states	17	9	26	9	5	7
Residual	Other allergic, endocrine system, metabolic and nutritional diseases	97	117	214	49	59	54
290-299	Diseases of the Blood and Blood Forming Organs	63	89	152	32	45	38
300-326	Mental, Psychoneurotic and Personality Disorders	91	50	141	46	25	35
330-398	Diseases of the Nervous System and Sense Organs	2,389	2,909	5,298	1,196	1,466	1,331
	Vascular lesions affecting central nervous system—						
331	Cerebral haemorrhage	877	1,109	1,986	439	559	499
332	Cerebral embolism and thrombosis	1,002	1,291	2,293	502	651	576
330, 333, 334	Other	307	353	660	154	178	166
340	Meningitis, except meningococcal and tuberculous	31	12	43	16	6	11
343	Encephalitis, myelitis and encephalomyelitis (except acute infectious)	10	4	14	5	2	4
341-342, 344-398	Other disorders of the nervous system and sense organs	162	140	302	81	71	76
400-468	Diseases of the Circulatory System	8,950	6,717	15,667	4,482	3,386	3,936
400-416	Rheumatic fever and chronic rheumatic heart disease	121	152	273	61	77	69
420-422	Arteriosclerotic and degenerative heart disease	7,170	4,784	11,954	3,591	2,412	3,003
430-434	Other diseases of the heart	678	675	1,353	340	340	340
440-447	Hypertensive disease	441	566	1,007	221	285	253
450-456	Diseases of arteries	486	483	969	243	243	243
460-468	Diseases of veins and other diseases of circulatory system	54	57	111	27	29	28
470-527	Diseases of the Respiratory System	1,529	829	2,358	966	418	592
480-483	Influenza	37	38	75	19	19	19
490-493	Pneumonia	641	561	1,202	321	283	302
500-502	Bronchitis	664	140	804	333	71	202
470-475, 510-527	Other diseases of the respiratory system	187	90	277	94	45	70
530-587	Diseases of the Digestive System	654	458	1,112	328	231	279
540-545	Diseases of stomach and duodenum	188	83	271	94	42	68
550-553	Appendicitis	31	13	44	16	7	11
560-561	Hernia of the abdominal cavity	38	30	68	19	15	17
570	Intestinal obstruction without mention of hernia	57	56	113	29	28	28
571	Gastro-enteritis and colitis except ulcerative, age four weeks and over	52	50	102	26	25	26
572	Chronic enteritis and ulcerative colitis	26	49	75	13	25	19
576-577	Peritonitis and peritoneal adhesions	3	3	6	2	2	2
581	Cirrhosis of liver	148	65	213	74	33	54
Residual	Other diseases of digestive system	111	109	220	56	55	55
590-637	Diseases of Genito-Urinary System	510	409	919	255	206	231
590-594	Nephritis and nephrosis	189	159	348	95	80	87
610-612	Diseases of the prostate	163	....	163	82	....	41
600-609, 613-637	Other diseases of the genito-urinary system	158	250	408	79	126	102
640-689	Deliveries and Complications of Pregnancy, Childbirth and Puerperium	....	29	29	....	15	7
640-649	Complications of pregnancy	....	9	9	....	5	2
650-652	Abortion—						
6502-6512, 6522	Criminal	....	3	3	....	2	1
Residual	Other	....	4	4	....	2	1
670-678	Complications of delivery	....	7	7	....	4	2
680-689	Complications of puerperium	....	6	6	....	3	2
690-716	Diseases of the Skin and Cellular Tissue	21	27	48	11	14	12
720-749	Diseases of the Bones and Organs of Movement	46	71	117	23	36	29
750-759	Congenital Malformations	239	208	447	120	105	112
760-776	Certain Diseases of Early Infancy	628	451	1,079	314	227	271
760-761	Injury at birth	199	114	313	100	57	79
762	Post-natal asphyxia and atelectasis	111	51	162	56	26	41
776	Immaturity unqualified	181	165	346	91	83	87
763-775	Other diseases of early infancy	137	121	258	69	61	65
780-795	Symptoms, Senility and Ill-defined Conditions	119	168	287	60	85	72
794	Senility without mention of psychosis	96	145	241	48	73	61
780-793, 795	Other symptoms and ill-defined conditions	23	23	46	12	12	12
E800-E999	Accidents, Poisonings and Violence	1,842	878	2,720	922	443	683
E800-E962	Accidents	1,405	666	2,071	704	336	520
E970-E979, E963	Suicide and self-inflicted injury	398	184	582	199	93	146
E964, E965, E980-E999.	Homicide and operations of war	39	28	67	20	14	17
001-E999	All Causes	20,633	16,228	36,861	10,333	8,180	9,260

TABLE XIII—CAUSES OF DEATH OF INFANTS UNDER ONE YEAR OF AGE, NEW SOUTH WALES, 1962

International Code No.	Cause of Death	Number of Deaths			Rate per 1,000 Live Births		
		Males	Females	Persons	Males	Females	Persons
001-019	Tuberculosis	....	....	....	....	....	....
020-029	Syphilis and its sequelae	1	....	1	·02	....	·01
057	Meningococcal infections	2	1	3	·05	·02	·04
080-081	Poliomyelitis	....	....	....	....	....	....
082-083	Infectious encephalitis	1	....	1	·02	....	·01
030-056, 058-074, 084-138.	Other infective and parasitic diseases	13	11	24	·30	·27	·28
340	Meningitis, except meningococcal and tuberculous	14	3	17	·32	·07	·20
490-493	Pneumonia (age 4 weeks and over)	61	69	130	1·39	1·67	1·52
500-502	Bronchitis	8	4	12	·18	·10	·14
571	Gastro-enteritis and colitis, except ulcerative, age 4 weeks and over	17	16	33	·39	·39	·39
750-759	Congenital malformations	185	157	342	4·20	3·79	4·00
7600-7610	Injury at birth, without mention of immaturity	90	58	148	2·04	1·40	1·73
7605-7615	Injury at birth, with immaturity	109	56	165	2·48	1·35	1·93
7620	Post-natal asphyxia and atelectasis, without mention of immaturity	55	26	81	1·25	·63	·95
7625	Post-natal asphyxia and atelectasis with immaturity	56	25	81	1·27	·60	·95
7630	Pneumonia of newborn, without mention of immaturity	21	21	42	·48	·51	·49
7635	Pneumonia of newborn, with immaturity	7	6	13	·16	·14	·15
7640	Diarrhoea of newborn, without mention of immaturity	....	1	1	....	·02	·01
7645	Diarrhoea of newborn, with immaturity	....	....	....	....	....	....
7650, 7660, 7670, 7680, 7690-7694, 7700 7702, 7710, 7720, 7730.	Other diseases of early infancy, without mention of immaturity	50	43	93	1·14	1·04	1·09
7655, 7665, 7675, 7685, 7695-7699, 7705-7707, 7715, 7725, 7735.	Other diseases of early infancy with immaturity	55	45	100	1·25	1·09	1·17
774	Immaturity with mention of any other subsidiary condition	4	5	9	·09	·12	·11
776	Immaturity unqualified	181	165	346	4·11	3·98	4·05
E800-E999	Accidents, poisonings and violence	44	32	76	1·00	·77	·89
Residual	All other causes	63	44	107	1·43	1·06	1·25
001-E999	All Causes	1,037	788	1,825	23·56	19·02	21·36

COMMUNICABLE DISEASES

Division of Epidemiology—Annual Report, 1962

STAFF

(as at 31st December, 1962)

Director: Dr. H. C. Johnston, M.B., B.S., D.P.H.

One Senior Medical Officer; three Medical Officers; one Microbiologist; one Laboratory Assistant (one in training); one Senior Clinic Attendant; one Deputy Senior Clinic Attendant; six Clinical Attendants; one Senior Clerk; three Clerks; and three Office Staff.

NOTIFIABLE INFECTIOUS DISEASES RECORDED IN NEW SOUTH WALES DURING THE YEARS 1961 AND 1962 UNDER PUBLIC HEALTH ACT, 1902-1952

The Public Health Act, 1902-1952 provides that the Governor may by proclamation in the Government Gazette, declare that any disease named therein is an infectious disease.

Table I

Disease	Notifiable from—	Cases and Deaths Notified			
		1961		1962	
		Cases	Deaths	Cases	Deaths
Smallpox	20th December, 1881	..	..	..	..
Leprosy	26th November, 1890	2	..	2	..
Typhoid and	1st January, 1898	8	1	7	..
Paratyphoid fevers		1	1	2	..
Scarlet fever	1st January, 1898	285	..	318	1
Diphtheria or membranous croup	1st January, 1898	19	1	9	1
Plague	23rd January, 1900*	..	..	..	..
Acute anterior poliomyelitis	1st February, 1912†	158	13	218	12
Meningococcal infection	1st October, 1915*	41	20	46	17
Virus encephalitis	1st April, 1926*	32	12	39	14
Cholera	12th August, 1927	..	..	..	..
Typhus fever	12th August, 1927	..	..	..	..
Yellow fever	12th August, 1927	..	..	..	..
Puerperal infection	16th August, 1929*	58	12	44	5
Brucellosis	13th August, 1937*	11	..	12	..
Tuberculosis (all forms)	14th May, 1945§	1,455	158	1,460	218
Infantile diarrhoea	11th July, 1952	198	38	121	25
Rheumatic fever	11th July, 1952	58	13	33	13
Chorea (rheumatic)	11th July, 1952	3	..	1	..
Ancylostomiasis	11th July, 1952	40	..	12	..
Dengue fever	11th July, 1952	4	..	10	..
Ornithosis	11th July, 1952	1	..	3	..
Leptospirosis	11th July, 1952	7	..	19	..
Ascariasis	22nd January, 1954	41	..	42	1
Infectious hepatitis	22nd January, 1954	6,050	34	3,202	20
Staphylococcal mastitis	19th September, 1958	15	..	2	..
Staphylococcal pneumonia	19th September, 1958	53	41	47	37
Staphylococcal diseases in infants under four weeks of age	19th September, 1958	78	4	504	2
Totals		8,621	348	6,153	366
Population as at 30th June		3,917,013		3,976,736	

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*Definition reproclaimed 11th July, 1952.

†Definition reproclaimed 14th August, 1931 and 11th July, 1952. Cases and deaths are those notified during the year.

§ Pulmonary Tuberculosis has been notifiable as follows: (*a*) from 1904, City of Sydney only; (*b*) from 1915, Metropolitan and Hunter River Districts; (*c*) from 1916, Blue Mountains Districts added; (*d*) From March, 1929, notification was extended to cover the whole State. On 14th May, 1945, extra-pulmonary tuberculosis was made notifiable.

Note.—Diseases notifiable prior to 1902 were notifiable under the following Act; Infectious Diseases (Smallpox) Supervision Act, 1881; Leprosy Act, 1890; Public Health Act, 1896.

GENERAL

A total of 6,153 cases of communicable disease were notified under the Public Health Act during 1962, or 2,468 fewer cases notified than in 1961, but with the fewer notifications there were a greater number of deaths during the year—366 in contrast to 348 in 1961. The decrease in notifications occurred notably in cases of infectious hepatitis (— 2,848); puerperal infection (— 14); infantile diarrhoea (— 77); and rheumatic fever (— 25).

The epidemic of poliomyelitis continued in 1962, and there was a further increase of 60 cases over the 1961 figure of 158, making a total of 218 cases. The significant increase in notifications of staphylococcal diseases in infants under four weeks, 78 in 1961 and 504 in 1962, was due to simplification of the notification form, when many more types of staphylococcal infection in infants were notified.

The increase in deaths from communicable diseases was, in the main, due to an increase of 60 deaths from tuberculosis (all forms)—218 in 1962 compared with 158 in 1961.

POLIOMYELITIS

The epidemic of poliomyelitis which commenced in 1961 continued in 1962, when 218 cases of the disease were notified with 12 deaths compared with 158 cases and 13 deaths in 1961. A full and comprehensive report on the outbreak over the two-year period 1961-1962, has been included in the text of the Report.

INFECTIOUS HEPATITIS

There was a gratifying decrease both in the number of notifications and the number of deaths from Infectious Hepatitis during 1962. The figures were 3,202 cases with 20 deaths compared with 6,050 cases and 34 deaths in 1961.

STAPHYLOCOCCAL PNEUMONIA

Staphylococcal Pneumonia continues to be a fairly prominent cause of morbidity in the State and attention is drawn to this on account of the high mortality rates that occur with this disease. In 1962 there were 47 cases with 37 deaths.

TUBERCULOSIS (ALL FORMS)

There were 1,460 cases of tuberculosis (all forms), with 218 deaths compared with 1,455 cases and 158 deaths in 1961. Of these notifications of tuberculosis 206 were pulmonary and 12 were non-pulmonary tuberculosis compared with 1,365 and 90 respectively in 1961.

TABLE II—SUMMARY OF NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY SEX AND AGE, NEW SOUTH WALES, 1962

Age Group	Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths			Cases			Deaths		
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
	Ancylostomiasis						Ascariasis						Brucellosis						Chorea (Rheumatic)						Diphtheria						Infantile Diarrhoea					
All Ages ..	6	6	12	..	..	..	18	24	42	1	..	1	6	6	12	..	..	Nil	..	1	1	..	..	..	3	6	9	1	..	1	57	64	121	14	11	25
Under 1 year	..	1	1	..	..	..	2	4	6	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	45	79	10	4	14
1— 4 years	2	3	5	..	..	..	11	13	24	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	23	19	42	4	7	11
5—14 years	4	1	5	..	..	..	4	5	9	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..
15—24 years	..	1	1	..	..	..	1	1	2	..	..	..	2	..	2	..	..	..	..	..	..	..	..	..	2	3	5	1	..	1	..	..	..	..	..	..
25—34 years	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35—44 years	..	..	..	..	..	..	..	..	..	..	..	..	2	2	4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
45—54 years	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
55—64 years	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Virus Encephalitis						Infectious Hepatitis						Typhoid Fever						Rheumatic Fever						Scarlet Fever						Puerperal Infection					
All Ages ..	20	18	39	9	5	14	1,669	1,532	3,202	12	8	20	5	2	7	..	..	..	16	17	33	7	6	13	126	192	318	1	..	1	..	43	43	..	5	5
Under 1 year	1	2	3	1	..	1	2	1	3	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..
1— 4 years	1	4	5	2	1	3	56	67	123	..	..	..	..	1	1	..	..	..	1	1	2	..	..	..	32	50	82	..	..	..	..	..	..	..	..	..
5—14 years	4	3	7	..	1	1	679	665	1,344	2	..	2	1	..	1	..	..	..	6	6	12	1	1	2	75	122	197	..	..	..	..	1	1	..	..	..
15—24 years	4	5	9	1	1	2	300	269	569	..	1	1	..	..	..	..	..	..	3	5	8	..	1	1	8	8	16	..	..	..	..	24	24	..	2	2
25—34 years	1	3	4	1	1	2	288	254	542	1	..	1	..	..	..	..	..	..	2	1	3	2	..	2	1	..	1	..	..	..	..	11	11	..	2	2
35—44 years	2	..	2	1	..	1	192	115	307	1	2	3	1	..	1	..	..	..	3	2	5	3	2	5	1	..	1	1	..	1	..	3	3	..	1	1
45—54 years	2	1	3	..	1	1	66	65	131	2	2	4	1	..	1	..	..	..	1	2	3	1	2	3	2	2	4	..	..	..	..	1	1	..	..	..
55—64 years	3	..	3	2	..	2	44	46	90	4	1	5	1	1	2	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..
65 and over	1	..	1	1	..	1	31	34	65	2	1	3	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
Not stated	1	1	2	..	..	..	11	17	28	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	7	11	..	..	..	..	4	4	..	..	..
	Ornithosis						Leptospirosis						Meningococcal Infection						Typhus Fever						Paratyphoid Fever						Staphylococcal Mastitis					
All Ages ..	1	2	3	..	..	Nil	13	6	19	..	..	Nil	27	22	49	10	7	17	1	..	1	..	..	Nil	1	1	2	..	..	Nil	..	2	2	..	..	Nil
Under 1 year	..	..	..	..	..	..	..	..	..	..	..	..	3	6	9	2	1	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
1— 4 years	..	..	..	..	..	..	..	..	..	..	..	..	12	5	17	5	2	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
5—14 years	..	..	..	..	..	..	4	3	7	..	..	..	4	3	7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
15—24 years	..	..	..	..	..	..	4	2	6	..	..	..	2	2	4	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	..	..
25—34 years	..	1	1	..	..	..	3	1	4	..	..	..	4	1	5	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
35—44 years	1	..	1	..	..	..	..	..	..	..	..	..	1	..	1	1	..	1	1	..	1	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..
45—54 years	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..
55—64 years	..	..	..	..	..	..	2	..	2	..	..	..	..	1	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
65 and over	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2	..	2	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Not stated	..	1	1	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Staphylococcal Pneumonia						Staph. Diseases in Infants under 4 weeks of age						Poliomyelitis						Dengue Fever						Tuberculosis											
All Ages ..	29	18	47	16	21	37	198	172	504*	2	..	2	118	100	218	7	5	12	5	5	10	..	..	..	1,040	420	1,460	184	34	218						
Under 1 year	5	5	10	5	8	13	198	172	504*	2	..	2	5	7	12	..	..	..	..	..	..	..	..	..	2	2	4	..	..	..						
1— 4 years	10	2	12	..	5	5	..	..	..	..	..	..	28	26	54	..	..	..	..	..	..	..	..	..	19	13	32	..	..	..						
5—14 years	1	..	1	..	..	..	..	..	..	..	..	..	32	29	61	1	1	2	..	..	..	..	..	..	10	15	25	..	..	..						
15—24 years	3	..	3	..	1	1	..	..	..	..	..	..	18	14	32	1	1	2	3	1	4	..	..	..	61	39	100	..	..	..						
25—34 years	4	..	4	..	2	2	..	..	..	..	..	..	28	17	45	3	1	4	..	..	..	..	..	..	92	82	174	1	1	2						
35—44 years	1	..	1	..	1	1	..	..	..	..	..	..	4	4	8	..	1	1	2	1	3	..	..	..	171	87	258	8	3	11						
45—54 years	..	3	3	3	..	3	..	..	..	..	..	..	2	3	5	1	1	2	..	2	2	..	..	..	223	65	288	38	6	44						
55—64 years	1	2	3	2	1	3	..	..	..	..	..	..	1	..	1	1	..	1	..	1	1	..	..	..	201	57	258	38	5	43						
65 and over	4	5	9	6	3	9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	261	60	321	99	19	118						
Not stated	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..						

*134 cases—Sex not stated.

TABLE III—SUMMARY OF NOTIFIABLE INFECTIOUS DISEASES—CASES AND DEATHS BY HEALTH DISTRICTS, NEW SOUTH WALES, 1962

Districts	Estimated Population 30th June, 1962*	Ancylostomiasis		Ascariasis		Brucello		Chorea (Rheumatic)		Diphtheria		Infantile Diarrhoea		Virus Encephalitis		Infectious Hepatitis	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,344,440	1	..	7	..	5	..	..	..	..	..	61	9	10	8	1,697	12
Newcastle Health District	474,590	3	..	16	1	1	..	1	..	3	1	19	4	7	..	418	3
South Coast Health District	295,480	..	..	1	..	..	..	..	..	..	..	4	3	1	..	222	1
North Coast Health District	155,000	8	..	15	..	..	..	..	..	1	..	11	1	3	3	63	2
Western Health District	153,290	..	..	..	..	..	..	..	..	2	..	11	3	11	2	281	1
North Western Health District	273,670	..	..	1	..	2	..	..	..	..	..	7	2	3	1	34	..
Broken Hill Health District	30,810	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10	..
Remainder of State	259,456	..	..	2	..	4	..	..	..	3	..	8	3	4	..	468	1
Residence outside of State	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Armed Forces	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	..
Total New South Wales	3,976,736	12	..	42	1	12	..	1	..	9	1	121	25	39	14	3,202	20

		Typhoid Fever		Paratyphoid Fever		Rheumatic Fever		Scarlet Fever		Puerperal Fever		Ornithosis		Leptospirosis		Meningococcal Infection	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,334,440	5	..	2	..	11	4	132	..	8	3	3	..	..	..	17	10
Newcastle Health District	474,590	1	..	..	..	7	3	21	..	5	..	..	..	1	..	7	2
South Coast Health District	295,480	..	..	..	..	2	2	17	..	8	1	..	..	1	..	5	1
North Coast Health District	155,000	..	..	..	..	..	..	13	..	5	..	..	..	17	..	2	2
Western Health District	153,290	..	..	..	..	4	..	74	1	5	..	..	..	..	..	2	1
North Western Health District	273,670	..	..	..	..	..	..	3	..	3	..	..	..	..	..	3	1
Broken Hill Health District	30,810	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..
Remainder of State	259,456	..	..	..	..	9	4	58	..	9	..	..	..	..	..	10	..
Residence outside of State	....	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Armed Forces	....	..	..	..	..												
Total New South Wales	3,976,736	7	..	2	..	33	13	318	1	44	5	3	..	19	..	46	17

		Typhus Fever		Staphylococcal Mastitis		Staphylococcal Pneumonia		Staphylococcal Diseases in Infants		Poliomyelitis		Dengue Fever		Tuberculosis	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Health District	2,334,440	..	..	1	..	26	18	492	1	147	8	..	..	929	139
Newcastle Health District	474,590	..	..	1	..	4	4	8	1	25	..	..	..	193	28
South Coast Health District	295,480	..	..	..	..	5	5	..	..	11	3	..	..	99	18
North Coast Health District	155,000	1	..	..	..	1	1	1	..	9	..	3	..	43	4
Western Health District	153,290	..	..	..	..	2	2	3	..	14	1	7	..	85	13
North Western Health District	273,670	..	..	..	..	3	1	..	..	..	..	..	..	10	6
Broken Hill Health District	30,810	..	..	..	..	..	..	..	..	..	..	..	..	12	1
Remainder of State	259,456	..	..	..	..	6	6	..	..	12	..	..	..	89	9
Residence outside of State	....	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Armed Forces	......	..	..	..	..										
Total New South Wales	3,976,736	1	..	2	..	47	37	504	2	218	12	10	..	1,460	218

* In consequence of decentralisation and enlargement of the Health Districts, the estimated population figures for 1962 are now noticeably increased over previously reported population figures and those tabulated above are not, therefore, comparable with previous yearly reports.

Venereal Diseases

VENEREAL DISEASES ACT, 1918

NOTIFICATIONS

4,326 notifications of venereal diseases were received during the year. A further 77 cases, diagnosed in the Division but not notified subsequently, have been added to the total, making this 4,403 for the year.

Table I: shows the cases of syphilis and gonorrhoea by Health Districts and source of report.

Table II: shows age and sex distribution of all venereal diseases for the year.

Table III: shows the age—sex grouping of syphilis cases by stage of disease.

GONORRHOEA

3,736 cases were recorded, an increase of 13·3 per cent. over total for 1961, and the highest annual total since 1947.

3,444 cases (92·5 per cent.) were from the metropolitan area. The proportion of cases notified by private practitioners was 21·8 per cent.

The notification rates for gonorrhoea in 1962 were:—

Whole State:	93·9 per 100,000 mean population.
Metropolitan Area:	160·3 per 100,000 mean population.

Both these rates were higher than those in 1961 which were 84·2 and 129·7 respectively. The sex ratio of cases was 7·3 males to 1 female.

The proportions of cases occurring in the age-group 15 to 19 years fell slightly in both sexes compared with those of the previous year.

Percentage of cases in age group 15-19—	1961	1962
Males	21·4	19·8
Females	43·8	42·1

SYPHILIS

447 cases were recorded of which 329 (73·6 per cent.) were in an early infectious stage. The total for the year was 122 less than that for 1961, a decrease of 27·3 per cent.

432 (96·6 per cent.) of the cases were from the metropolitan area. The proportion of the total notified by private practitioners was 14·1 per cent.

Notification rates per 100,000 mean population for syphilis for the years 1961 and 1962 were:—

	1961	1962
Whole State	14·5	11·2
Metropolitan Area	19·9	19·2

The sex ratio of syphilis cases was 2·8 males to 1 female.

The proportion of cases in the 15-19 years age group were:—

	1961 per cent.	1962 per cent.
Males	8	6
Females	21	19

NOTIFICATION OF DEFAULT

The total of defaulters reported was 1,474 for the year compared with 1,692 in 1961. Of these 522 remained in default—35·4 per cent. compared with 26·2 per cent. in 1961.

PROSECUTIONS

During the year Summonses to appear before a Magistrate for breach of Section 5 of the Act (failure to continue treatment) were issued against 746 persons compared with 715 in 1961. Ten males and one female were arrested and completed treatment after being placed on verbal recognisance.

DIVISIONAL CLINIC (for males only)

In 1962 of all the reported cases for the whole State of syphilis and gonorrhoea in males, 42·3 per cent. and 55·6 per cent. respectively were treated in this clinic.

The numbers of cases of non-gonococcal urethritis treated in the clinic are shown for 3 years:—

	1960	1961	1962
No. of cases (N.G.U.)	1,337	1,475	1,743

TREATMENT OF GONORRHOEA

Routine treatment during the year consisted of " Bicillin all-purpose " 1·2 million units together with procaine penicillin G 900,000 units given in one intramuscular injection. The effectiveness of this treatment has been reviewed for the year and the results can still be considered satisfactory.

Number of cases receiving treatment	*Number of failures*	*Failure rate*
1,787	45	2·5 per cent.

Strains of *Neisseria gonorrhoeae* were cultured from the urethral discharges of 33 patients who failed to respond to routine treatment. All these strains showed in vitro sensitivity to penicillin but 31 out of the 33 were completely resistant to streptomycin.

PENICILLIN REACTIONS

Penicillin Reactions

The incidence of allergy to penicillin induced in clinic patients by routine treatments was remarkably low for the year:—

	Number of cases treated with penicillin	*Number developing reactions*	*Percentage*
Syphilis	137	1	0·73 per cent.
Gonorrhoea	1,787	11	0·62 per cent.

No true anaphylactic reactions occurred during the year.

Serological Laboratory

It was decided during the year, on the recommendation of the National Health and Medical Research Council, that the Divisional Serological Laboratory should become the Syphilis Reference Laboratory for Australia. Dr. Margaret Garner, Senior Medical Officer-in-Charge of the Laboratory, will go overseas early next year on an official travelling Fellowship granted by the Council. On her return it has been arranged that the Laboratory will be transferred to Lidcombe to become part of the Institute of Clinical Pathology and Medical Research.

For the year the number of tests performed in the Laboratory totalled 104,118. This was an increase of 35 only over the total number done in 1961, although the number of specimens submitted increased by 1,166 to a total of 27,653 compared with 25,987 in 1961.

During the year the Meinicke test was eliminated from the battery of serological tests for syphilis.

Tests performed for public hospitals, private practitioners, mental hospitals, Child Welfare Departments and Commonwealth Government Departments increased in number during the year. There was a decrease in the number of tests done for the Divisional Clinic, Lidcombe State Hospital and the Prisons Department.

The complement fixation test for lymphogranuloma venereum was started during the year.

TABLE I

Source of Report	Syphilis		Gonorrhoea	
	Male	Female	Male	Female
Navy	14	....	117	....
Army	4	....	93	....
Air Force	....	....	6	....
Metropolitan—				
Doctors	42	16	594	129
Hospitals	73	73	377	299
Divisional Clinic	145	....	1,837	....
Newcastle H.D.—				
Doctors	3	....	8	5
Hospitals	6	3	129	9
South Coast H.D.—				
Doctors	....	....	19	1
Hospitals	....	1	22	....
North Coast H.D.—				
Doctors	....	....	14	2
Hospitals	....	....	3	....
North Western H.D.—				
Doctors	....	....	....	....
Hospitals	....	....	1	1
Western H.D.—				
Doctors	1	1	34	2
Hospitals	....	....	13	....
Remainder of State—				
Doctors	....	....	7	1
Hospitals	....	....	1	....
Diagnosed in Division but not notified	43	22	9	3
Total	331	116	3,284	452

TABLE II—RETURN OF CASES OF VENEREAL DISEASE NOTIFIED DURING 1962 BY DISEASE, AGE AND SEX

	0–14		15–19		20–24		25–29		30–39		40–49		50–59		60–69		70 and over		Age not Stated		Totals		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Gonorrhoea	..	16	651	189	1193	117	608	56	563	46	189	22	67	4	7	1	5	..	1	1	3284	452	3736
Syphilis	2	2	20	22	61	18	64	23	92	18	53	15	22	10	8	5	6	1	3	2	331	116	447
Chancroid	..	..	..	..	3	..	2	..	1	..	..	..	..	..	..	..	..	..	..	..	6	..	6
Lymphogranuloma venereum ..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Gleet	..	..	1	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	3	..	3
Venereal Warts	..	..	16	..	85	..	52	1	31	..	9	..	6	..	3	..	..	..	..	..	202	1	203
Gono. Ophthalmia	4	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	2	6
Totals	6	20	688	211	1344	135	726	80	689	64	251	37	95	14	18	6	11	1	4	3	3832	571	4403

TABLE NO. III—SYPHILIS—AGE—SEX GROUPING BY STAGE OF DISEASE

	0–14		15–19		20–24		25–29		30–39		40–49		50–59		60–69		70 and over		Not Stated		Totals		Grand Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Primary	..	..	17	7	50	4	44	6	63	5	34	2	7	2	2	..	1	..	..	..	218	26	244
Secondary..	..	1	1	7	8	3	10	4	11	7	3	5	1	2	..	..	1	..	1	..	36	29	65
Latent—1st year	..	..	1	3	..	2	3	1	5	..	4	1	..	..	..	..	..	..	..	..	13	7	20
Cardio-Vascular	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	3	1	..	..	..	3	3	6
C.N.S.	..	..	..	..	..	..	..	..	1	1	2	1	4	2	3	1	..	..	2	..	12	5	17
All Other Late and Latent ..	..	..	1	5	2	8	6	11	12	5	7	6	6	4	3	1	3	1	..	2	40	43	83
Treated	..	..	..	..	..	..	1	..	..	..	2	..	2	..	..	..	..	..	..	..	5	..	5
Congenital—Under 1 year of age	2	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Congenital—Over 1 year of age	..	..	..	..	1	1	..	1	..	..	..	..	1	..	..	..	..	..	..	..	2	2	4
Totals	2	2	20	22	61	18	64	23	92	18	53	15	22	10	8	5	6	1	4	3	331	116	447

Tuberculosis Division—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Director: Dr. Keith W. H. Harris, M.B., B.S., D.P.H., F.C.C.P.

Deputy Director: Dr. V. G. S. Desgrand, M.B., B.S.

3 Medical Officers; 45 Nurses; 21 Clerical Officers; 26 Operator/Receptionists; 4 Radiographers; 1 Survey Manager; 1 Operator/Receptionist/Lorry Driver; 1 X-ray Technician; 2 Dark Room Attendants; 1 Motor Lorry Driver; 3 Messengers.

GENERAL

During the period covered by this report an extensive and worthwhile Clerical Measurement Survey has taken place throughout the Division. This has shown its value by the deletion of unnecessary and duplicate procedures, and has resulted in the combination of three Sections. These are the Case Register, the Contact and the Tuberculosis Allowance Sections. The recommended procedures have already been implemented in the main and the remainder will be enforced during the early part of 1963.

RADIOLOGICAL SURVEYS

These surveys will be considered under three headings, Mass Miniature Surveys, Special Surveys and those taken at the Chest Centre. Statistics relevant to these are contained in Tables I, II and III.

MASS MINIATURE SURVEYS

At the request of the Commonwealth Health Department a Mass Miniature Survey of the City of Canberra was undertaken by the Staff and the X-ray Units of the Division during 1962.

The number of films taken under this category in New South Wales increased from 250,175 in 1961 to 276,329 in 1962—an increase of 26,154. This was due in part to the use of the new No. 4 Unit which was in full operation during the last six months of the year.

As a result of the Mass Miniature X-ray Surveys, 154 cases of active tuberculosis were notified in the State, representing a case rate of 3·85 per 10,000 micro films taken. The number of cases still under investigation at the end of the year was 361.

It was noted that at least 6 cases which were notified as a result of past surveys had some years previously attended Chest Clinics with apparently inactive tuberculosis. These persons had ceased to attend the clinic or could not be traced, and the X-ray films taken at the recent surveys showed marked spread of the disease with sputa positive for tubercle bacilli.

A further 24 cases of active disease were notified as a result of investigations completed following abnormal chest findings during the 1961 surveys. This brings the total number of cases notified in the State during 1961 to 125 which represents 4·03 per 10,000 micro films taken in that year.

An attempt has been made to analyse chest abnormalities, other than tuberculosis, which were discovered during the surveys in 1962. Because of the number of cases still under investigation findings are not complete but the diagnoses available are given in Table III. It will be noted that 16 cases of carcinoma have been proven by pathological examination and a further 15 cases were diagnosed on radiological examination only.

The areas surveyed during 1962 under the compulsory scheme in New South Wales were:—

(i) *Second Round Surveys:*

Municipality of Dubbo, Shire of Cudgegong.
Municipality of Mudgee, Shire of Rylstone.
Shire of Wellington, Shire of Central Darling.

(ii) *Third Round Surveys:*

Municipality of Broken Hill, Municipality of Kiama.

(iii) *Fourth Round Surveys:*

Municipality of Canterbury, City of Greater Wollongong.
Municipality of Bankstown, Municipality of Shellharbour.
Municipality of North Sydney.

In the last half of the year all the abnormalities reported on in micro films by radiologists were scrutinised. This was done in an attempt to reduce the number of persons recalled for large films. This review has resulted in a reduction of about one third in the number of persons recalled for large films.

During the year the new truck containing an X-ray unit and facilities for developing large films was delivered. This vehicle was used in the South Coast Survey and proved highly successful in that all persons who attended for large X-ray films could be informed of the result of their chest X-rays in a very short time. This considerably reduced the work of the local Chest Clinic during the survey and the volume of correspondence necessary at the Chest Centre. In the early part of the year in the Broken Hill and the Central Western Districts, facilities of the local hospitals were used for this purpose but the rate at which persons could be X-rayed and interviewed was very much less satisfactory than when the large film truck was used.

With the completion of the No. 4 Caravan and the conversion of the No. 4 X-ray Unit, all the original X-ray Units now have 70 mm. cameras. A new 70 mm. X-ray Unit arrived at the end of 1962 which will be used to take large films and also micro films, particularly in country areas, where the towing of caravans creates problems.

At the commencement of the Bankstown survey in June the new system of reply cards was inaugurated. This was introduced at a civic reception arranged by the Council of the Municipality of Bankstown at which the Minister for Health opened the survey and announced the details of the new card system.

All persons who have a normal chest X-ray are sent a card to this effect, by post, in the shortest possible time. Abnormalities are dealt with in the usual way. The system has functioned satisfactorily to date and comments heard would seem to indicate that this is generally very much appreciated by the members of the Public. Since the introduction of these cards there has been a marked improvement in the attendance at the Metropolitan Surveys.

The percentage of the eligible population X-rayed rose from 50·7 per cent. to 62·6 per cent. in the Bankstown Municipality and the corresponding rise for the North Sydney Municipality was 48·8 per cent. to 64·6 per cent. Little increase in attendance was noted in the Wollongong survey, but attendances at areas outside the Metropolis have always been much more satisfactory, where it is not unusual for 85 per cent. to 95 per cent. of the eligible population to attend.

CHEST X-RAY CENTRE

The number of X-rays taken at the Centre increased in 1962 by 3,356 to 38,876. Of the 44 active cases notified as a result of these X-rays, analysis of the sources showed as previously noted, that the greater proportion of these X-rays were self referral cases.

Cases were referred as under:—

State Public Service	1
Commonwealth Public Service	1
Contact	1
Agricultural Department	1
Private Employers	1
Immigration Department	3
Ships	1
Self Referrals	35
Total	44

Investigations are still proceeding in 94 cases.

It was noted that one of the above cases was found as a result of the routine annual X-ray of the Agricultural Departmental Staff which procedure has now been in operation for one year. The person referred to was employed in an abbatoir.

Review of the records of 1961, showed that a further five cases were notified as a result of investigation following X-rays; these brought the total for that year to 58 cases.

Examination of the abnormalities, re-rayed as a result of films taken at the Chest Centre, has resulted in a further 9 cases of carcinoma of the lungs being found together with other abnormalities of the chest which have been referred for further investigation and treatment.

Large films reported on at the Chest Centre showed the following sources and totals:—

Recalls from surveys and Chest Centre	3,808
Snowy Mountains Authority	2,984
Hospitals Commission, Agricultural Department, etc.	2,698
Total	9,490

SPECIAL SURVEYS

The total number of films taken during Special Surveys was 14,508 an increase of 454 over 1961. This total was made up of Special Surveys in the State—2,722 (See Table II.); including the townships of Captains Flat and Batlow, Richmond High School, Parramatta Gaol, United Capacitator Ltd., and Mullen Pty. Ltd. (one active case was found.) Special Surveys of Mental Hospitals—3,560 and Special Surveys (July-September) in Victoria at the request of the Victorian Health Department in association with the Anti-Tuberculosis Association.

There are no statistical figures available for the Special Survey in Victoria but the Mental Hospitals that were surveyed in the State resulted in the following findings:—

Hospital	No. of X-rays	Active Tuberculosis Cases	Inactive Tuberculosis Cases
Parramatta	1,267	8	14
Rydalmere	1,017	11	17
Callan Park	1,276	9	12
Total	3,560	28	43

SUMMARY OF X-RAYS TAKEN 1952-1962

Since the inception of the community wide micro X-ray Surveys on 14th July, 1952, a total of over 6¼ million X-rays have been taken by this Division and the Anti-Tuberculosis Association of New South Wales. From these films about 4,500 cases of active tuberculosis have been discovered.

ARRANGEMENTS FOR SPECIAL GROUPS—HOSPITAL IN AND OUT PATIENTS

Plans are nearing completion for the installation of 70 mm. X-ray units in the Parramatta and Manly Districts Hospitals. They will be manned by an operator/receptionist who will be a member of the hospital staff. Her duties will be to ensure the chest X-raying of hospital in-and out-patients who have not had a recent chest X-ray. Where there is a chest clinic attached to the hospital, certain of the patients attending the clinic will be X-rayed by this unit as well. It is intended to extend this service to other hospitals.

EPIDEMIOLOGICAL SURVEYS

The scope of activities of the Section remained unchanged. (See Table IV.) Mass tuberculin surveys were conducted ahead of the Mobile Units of both the Department of Health and the Anti-Tuberculosis Association of New South Wales, and ranged over a large part of the Country and Metropolitan area.

The Trainee Teachers tested in this period were few and the positive reactor rate of 11·4 per cent. cannot be taken as an indication of the reactor rate of the 17, 18, 19–age (school leaver) group. The Trainee Teacher Applicant positive reactor rate of 18·2 per cent. gives a more correct figure.

As a result of school children or teachers being notified as having tuberculosis, Special Surveys were carried out in four schools, but no further cases were found as a result of this work.

B.C.G. Vaccination was offered to the same priority groups as in previous years. However, the Mantoux Conversion Rates were disturbing this year and on reviewing conditions obtaining at the time of vaccination it was thought that intense light on the vaccine may have killed the attenuated organism. Vaccine ampoules are now covered with black paper and other steps are being taken to protect the vaccine from light.

Prophylactic chemotherapy of the young positive reactor was continued to be advised and more than 2,000 children were referred to Clinics and Doctors, and included those with large positive reactions.

As with other sections of this Division radical changes were made in the Epidemiological Section by the Clerical Measurement Survey Team. Resulting from this, the field staff is now composed entirely of Nursing Sisters and the majority of the associated clerical work is carried out at the Division itself. Records of negative reactors are no longer kept and the break up of statistics by age reactor groups has been replaced by school groups. Consequently this has reduced the clerical staff.

VISITING NURSE SECTION

The duties of the visiting nurse section are not completely demonstrated by the attached summary (see Table V). As well as the work carried out in the Metropolitan Area additional duties were associated with relieving in the Health Districts; assisting the local clinic staffs in the " Follow-up " resultant from the Country Mass Surveys; and minimal essential work in the Broken Hill District where there is no clinic Sister as yet. Assistance also has been given to the Epidemiology Section.

The increased number of White Russians who arrived from Hong Kong added to the work of the staff because they rarely can be found at addresses provided by the World Council of Churches or the Immigration Department. When eventually discovered they usually have to be transported to clinics as they do not know any English. The importance of " Follow-up " in this group is shown by the fact that out of a total of 575 White Russians examined three active and two doubtfully active cases were discovered, in addition to 38 inactive cases, and 8 cases had other chest abnormalities.

The Trial of Ethionamide which commenced in December, 1960, was successfully concluded in December, 1962. Forty-two patients received the drug. A controlled series was not carried out and numbers were small, therefore the findings cannot demonstrate the real value of the drug. In one group 33 per cent. and in another 25 per cent. became negative. As all these patients were " chronic positive " cases it was gratifying to obtain the conversion of sputa and these patients ceased to be, any longer, a public health risk.

A comparison of the 1961 and 1962 reports shows that the number of days spent at clinics increased by 394. This was due to more patients attending local clinics instead of clinics in the inner Metropolitan Area which are not staffed by the Division. The number of visits by the Sisters for the purpose of streptomycin injections and dressings decreased by a total of 3,796 while the number of other visits increased by 603 in 1962.

The reason for the decrease in dressings was due to a smaller need for surgical procedures in tuberculosis today. Patients who had operations in the pre drug era, which often led to chronic discharging sinuses, have now become few. The decrease in injections is related to the following; patients receiving domiciliary treatment were, in most instances, given drugs orally in order that they could resume work without interruption, and the raised age of patients and the reluctance to give streptomycin to patients over 40 years, due to damage to vestibular nerve, was in the main the other factor.

TUBERCULOSIS ALLOWANCE SECTION

Although the total notifications of tuberculosis remained on the same level as last year there was a slight drop in new applications for and the renewals of the Tuberculosis Allowance. (See Table VI.)

Over the last seven years the Tuberculosis Allowance statistics indicate a general decline in the number of patients receiving these benefits. In 1962, the decline was more marked in the last two months of the year when there was a drop of 106 in the number of patients on the allowance.

The Tuberculosis Housing Committee has this year nominated a further 36 families for Housing Commission accommodation. This brings the total number nominated to 342 since the inception of the scheme.

CASE REGISTER SECTION

The details of Tuberculosis notifications are set out in the attached Statistical Tables VII, VIII and IX, showing the dissection by Health Districts, Stage of Disease, Source of Discovery and Age Group.

The number of new cases of Tuberculosis notified during 1962 was 1,460 an increase of 5 on the 1961 figure. In addition, there were 86 cases notified for which the results of investigations were still incomplete in 1962.

The rate of new cases of Tuberculosis per 100,000 of population was 36·71 in 1962; as compared with 37·16 in 1961; 30·99 in 1959 (the lowest rate); 62·88 in 1954 (the highest rate); and 55·96 in 1950, the commencement of the State campaign.

There has been a general increase in the number of cases classified under the heading " Minimal ", " Pleural Effusion ", " Extra Pulmonary " and " Death Certificates ", whilst as was the case in 1961 there has been a decrease in the number of cases classified under the headings of " Moderately Advanced " and " Far Advanced ". The number of " Primary " cases remained constant. The greatest source of discovery was by Miniature Mass Radiography which was responsible for 34·3 per cent. of the cases, as compared with the Private Practitioners 19·2 per cent. and Hospitals 18·8 per cent.

It is interesting to note that the sex ratio for males to females is much lower in the case of Private Practitioners and Hospitals, being less than 2-1, whilst that for the Miniature Mass Radiography is 3-1. The ratio of Male to Female notifications over the last 5 years is shown on p. 41.

Year	Total Notifications	Total Males	Total Females	Ratio	
				M.	F.
1958	1,399	959	440	1	0·46
1959	1,166	789	377	1	0·48
1960	1,533	1,068	465	1	0·45
1961	1,455	1,041	414	1	0·40
1962	1,460	1,040	420	1	0·40

When Miniature Mass Radiography is considered as a source of notifications, 45·2 per cent. of cases were " Minimal ", 48·1 per cent. " Moderately Advanced " and 5·8 per cent. " Far Advanced ". The corresponding figures for Private Practitioners were " Minimal " 29·3 per cent., " Moderately Advanced " 35·7 per cent. and " Far Advanced " 12·1 per cent. The incidence of " Far Advanced " disease is more noticeable in males in contrast to the incidence in females. The female incidence remains almost constant throughout the majority of age groups. With the " Minimal " and " Moderately Advanced " cases the incidence is approximately the same in both sexes in the younger age groups up to 35. Above this age group the comparative incidence increases in males.

The total number of deaths from Tuberculosis was 227. The dissection of these cases is as follows:—

Pulmonary Tuberculosis	208
Genito Urinary System	5
Pulmonary Tuberculosis associated with an occupational disease of the lung..	4
Pleural Tuberculosis	3
Tuberculosis of the Bones and Joints	3
Disseminated Tuberculosis	2
Tuberculosis of the Meninges and Central Nervous System	1
Tuberculosis of the Intestines and Mesenteric Glands	1

This figure shows a decrease on the total number of deaths recorded in the 1961 figure which was 273. However, the 1961 figure included deaths both from Tuberculosis and deaths from other causes where the patient had a past history of Tuberculosis. In 1962 this latter figure has been excluded.

MIGRANTS

The total number of migrants notified during 1962 was 241. Statistics by Country of Birth, Stage of Disease and Source of Discovery are shown in Table X. This Table from 1st July, 1962, shows Migrant Notifications from the beginning of 1953, Migrants entering the State before that date have not been included. Migrant notifications for 1962 amounted to 16·5 per cent. of total notifications in the State compared with approximately 20 per cent. during the past five years. Allowing for the exclusion from the figures of migrants arriving prior to 1952, the migrant percentage of notifications remains more or less constant.

DECENTRALISATION AND HEALTH DISTRICTS

Visits were made to all the Health Districts during the year although not all clinics were inspected, particularly in Newcastle and South Coast areas. The change-over is proceeding gradually but satisfactorily and difficulties, usually of a minor nature, have been mutually dealt with. The subjects discussed included the referral of patients for investigation, their hospital accommodation, transport arrangements and disposal of patients after in-patient treatment. The supply of drugs and X-ray procedures, particularly in regard to protective measures, were also discussed.

The need for Mantoux Testing, B.C.G. Vaccination of negative reactors and regular X-rays of hospital staff, as mentioned in the terms of the Industrial Gazette, was agreed to. Particular reference was made to the necessity of accurate records and the keeping of tuberculosis X-rays and records separate from other hospital records. Brief notes from each Centre (where applicable) are as follows:—

(a) Newcastle Health District

At the beginning of the current year a Mass Miniature Radiography Survey was carried out by the Anti Tuberculosis Association of New South Wales in the City of Greater Newcastle. A total of 101,310 people were X-rayed representing 95·8 per cent. of the estimated eligible population. From these 29 cases of active disease and 9 doubtful cases were found. Further investigation was necessary in 31 cases, and 157 cases were considered inactive but possibly needing supervision.

(b) North Coast Health District

In the 1961 Annual Report mention was made of the finding of three cases of tuberculosis amongst the staff of the Casino Meat Works. The number of cases has now risen to four. Of particular interest is the finding that the bovine organism was isolated in two of these cases.

(c) South Coast Health District

Redistribution of the work load was required in this Health District. Accordingly the sub-clinics of Bateman's Bay, Moruya and Bega were transferred from Wollongong to the Goulburn Clinic. Accommodation problems were encountered at Wollongong and new temporary quarters have been arranged pending completion of the chest section.

A Mass Miniature Radiography survey was commenced in this district in the latter part of the year by this Division, which survey will be completed in the early months of 1963.

(d) North Western Health District

This district was proclaimed and functioned during the latter half of the year. A visit by the Director of Tuberculosis was made and general discussion on tuberculosis ensued.

STANDARDISATION OF BACTERIOLOGICAL PROCEDURES

As a result of recommendations of the Bacteriological Sub-Committee of the National Tuberculosis Advisory Council, copies of the methods of standardisation of bacteriological procedures suggested by the Sub-Committee were circulated to all Hospitals where bacteriological investigations for tuberculosis are carried out. The Sub-Committee intended that these methods should be used for a trial period of six to twelve months, when modifications of the procedures may have to be made.

CONCLUSION

This report has shown that further progress has been made in the campaign of tuberculosis control, but much remains to be achieved. The assistance and co-operation received from senior officers of the Department of Public Health, the staff of the Tuberculosis Division and extra-departmental bodies has played no small part in this progress.

Table I—Summary of Mass Miniature Surveys Completed 1962

Area	Metropolitan	Country	Total
Total No. of Micros	138,030	138,299	276,329
Per cent of Proclaimed area	63·3	85·9	72·9
Chest Clear	136,267	135,817	272,084
No. of Abnormalities requiring re-ray	1,527	1,638	3,165
Per cent	1·16	1·19	1·14
Technical Faults	743	678	1,421
Per cent	0·54	0·49	0·51
Active cases not previously known	39	65	104
Active cases previously known	..	2	2
Cases per 10,000	2·83	4·84	3·85
Inactive Cases re-rayed..	439	372	811
Abnormalities re-rayed	941	662	1,603
Under Investigation	106	255	361
Abnormalities not re-rayed	870	840	1,710
Inactive cases not re-rayed	256	234	490

Table II—Summary of X-rays Carried out at the Chest X-ray Centre and Special Surveys. (Excluding State and Mental Hospitals)—1962

Area	Total No. of Micros.	Chest Clear	No. of Abnormalities requiring Re-ray	Per cent	Technical Faults	Per cent	Active Cases not previously known	Active Cases previously known	Cases per 10,000	Inactive Cases re-rayed	Abnormal Cases re-rayed	Under investigation	Inactive Cases not re-rayed	Abnormal Cases not re-rayed
Chest Centre	38,876	37,826	606	1·56	153	·39	41	3	11·32	233	216	94	76	215
Special ..	2,722	2,668	45	1·65	..	..	1	..	3·67	19	33	1	5	18

TABLE III—SUMMARY OF NON-TUBERCULOUS ABNORMALITIES FOUND, 1962

	Re-rayed		Not Re-rayed	
	Surveys	Chest Centre	Surveys	Chest Centre
Carcinoma:				
(1) Proven by biopsy, etc.	16	9	..	..
(2) Radiological diagnosis	15	..	..	..
(3) Secondary	6	2	..	..
(4) Lymphsarcoma	1	..	..	..
(5) Leukaemia	1	..	..	..
Simple Newgrowth	2	1	..	..
Substernal Thyroid	13	1	17	..
Bony abnormalities including tumours, Paget's Disease, etc.	10	2	5	1
Post Radiation Fibrosis	12	2	7	..
Pneumoconiosis—Previously known	25	..	123	1
Pneumoconiosis—Not previously known	17	2	17	2
Sarcoidosis	6	..	..	..
Diaphragmatic Abnormalities including Hiatus Hernia	29	2	41	4
Hydatid Cysts	4	..	..	..
Calcifications due to Varicella Pneumonia	5	..	1	..
Cardio-vascular Abnormalities	54	8	455	65
Pleuro Pericardial Cysts	9	2	4	..
Lymphadenopathy of undetermined cause	3	1	..	..
Spontaneous Pneumothorax	1	4	..	..
Bronchiectasis	16	14	..	..
Acute pneumonia, Pneumonitis and related conditions	108	41	27	19
Emphysema, Cystic Disease, Chronic Bronchitis, Post Inflammatory Fibrosis, Chronic Pleurisy and degenerative conditions, etc.	516	82	483	71

TABLE IV—SUMMARY OF ACTIVITIES OF THE EPIDEMIOLOGICAL SECTION FOR 1962 COMPARED WITH 1961

	Total No. Persons Tuberculin Skin Tested and the Tests later read-details below	
	Year ended June, 1961	Year ended June, 1962
Schools—		
No. of schools visited	1,090	1,106
No. of pupils tested and read	188,214	207,929
No. of positive reactors	16,978+811 previously had B.C.G.	16,661+952 previously had B.C.G.
Total No. of X-rays	55,324	53,314
No. of persons with active tuberculosis	38	30
No. of persons with inactive tuberculosis	204	251
No. of persons with lesions other than tuberculosis	269	237
Trainee Teachers—		
No. tested and read	1,755	316
No. of positive reactors	334+73 previously had B.C.G.	36
Australian positive reactor rate	19·8 per cent.	11·4 per cent.
Teachers' Training Applicants—		
No. tested and read	....	1,334
No. of positive reactors	....	270+10 previously had B.C.G.
Australian positive reactor rate	....	18·2 per cent.
Aborigines—		
No. tested and read	1,907	1,293
No. positive reactors	528+322 previously had B.C.G.	340+119 previously had B.C.G.
No. of persons vaccinated	869	800
Contacts and those at risk—		
No. tested and read	537	1,320
No. positive reactors	142+90 previously had B.C.G.	399+89 previously had B.C.G.
No. vaccinated	115	387
Conversions (B.C.G.)—		
No. tested and read (White)	13	63
No. positive reactors	12	35
Positive reactor rate	93·2 per cent.	55·5 per cent.
No. tested and read (Aborigines)	27	108
No. positive reactors	27	77
Positive reactor rate	100·0 per cent.	71·2 per cent.
Total tested and read	206,358	212,192

TABLE V—SUMMARY OF WORK OF DOMICILIARY SISTERS IN METROPOLITAN AREA IN 1962 COMPARED WITH 1961

	1961	1962
No. of visits to cases receiving Streptomycin	15,364	11,868
No. of visits for dressings	1,944	1,644
No. of visits made at request of this Division other than Streptomycin Dressings	13,286	13,889
No. of visits made at request of other doctors, clinics, etc.	982	1,159
Total number of visits	31,576	28,560
No. of working days at Clinic	923½	1,317½
No. of cases receiving Streptomycin	1,248	912

TABLE VI—STATISTICS CONCERNING THE TUBERCULOSIS ALLOWANCE SECTION

Application for Tuberculosis Allowance	1956	1957	1958	1959	1960	1961	1962
Action incomplete at end of previous year ..	20	28	40	19	39	12	19
New applications	1,023	824	643	661	688	709	685
Renewals	206	157	132	121	120	126	103
	1,249	1,009	815	801	847	847	807
Approvals	1,123	999	795	716	819	904	791
Refusals	53	52	36	11	17	16	8
Not proceeded with	3	Nil	4	Nil	Nil	Nil	Nil
Action incomplete	28	40	19	39	12	19	8
	1,207	1,091	854	766	848	939	807
Terminations	1,486	865	752	650	916	946	607
Cases in pay at end of year	1,503	119	751	908	756	690	540

TABLE VII—COMPARISON OF FORM AND/OR STAGE OF DISEASE FOR 1961 AS COMPARED WITH 1962

Form and/or Stage of Disease	1961		1962	
	Number	Percentage of Total	Number	Percentage of Total
Primary	10	0·6	10	0·6
Minimal	493	33·9	552	37·8
Moderately advanced	622	42·8	526	36·0
Far advanced	132	9·1	117	8·0
Pleural effusion	29	2·0	36	2·5
Extra Pulmonary	90	6·2	113	7·8
Death certificate	79	5·4	106	7·3
Total	1,455	100·0	1,460	100·0

TABLE VIII—NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS DURING YEAR ENDED 31ST DECEMBER, 1962—BY HEALTH DISTRICTS AND STAGE OF DISEASE

	Metropolitan Health District		Newcastle Health District		South Coast Health District		North Coast Health District		Western Health District		Broken Hill District		North Western Health District		Remainder of State		New South Wales		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	P.
									STAGE OF DISEASE										
Primary	4	2	..	1	..	..	1	1	1	..	..	..	..	..	..	..	6	4	10
Minimal	254	101	40	24	24	12	18	2	20	9	5	3	..	1	31	8	392	160	552
Mod. advanced	219	107	65	24	22	9	9	3	27	4	4	..	5	1	22	5	373	153	526
Far advanced	67	16	14	..	3	..	..	..	6	1	..	..	..	..	8	2	98	19	117
Pleural effusion	15	4	3	2	4	2	1	..	..	1	..	..	..	1	3	..	26	10	36
Extra pulmonary	34	38	3	3	5	11	4	1	6	..	..	..	1	..	6	1	59	54	113
Death certificate	58	10	12	2	6	1	2	1	4	6	..	..	1	..	3	..	86	20	106
Total	651	278	137	56	64	35	35	8	64	21	9	3	7	3	73	16	1040	420	1460

Note:—North-Western Health District figures only available from 1st July, 1962.

TABLE IX—NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS DURING YEAR ENDED 31ST DECEMBER 1962—BY SOURCE OF DISCOVERY, AND AGE GROUP (YEARS)

	STAGE OF DISEASE														Total		
	Pulmonary										Extra-Pulmonary		Death Certificate				
	Primary T.B.		Minimal		Moderately Advanced		Far Advanced		Pleural Effusion								
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	P.
							SOURCE OF DISCOVERY										
Private Practitioner	..	..	55	27	66	34	28	6	11	5	25	23	..	..	185	95	280
Chest Clinic	1	1	47	29	36	23	5	..	3	1	..	..	..	..	92	54	146
Sanatorium	..	..	..	..	1	1	..	..	..	..	..	..	..	..	1	1	2
Hospital	3	1	44	29	63	27	30	9	8	4	27	29	1	..	176	99	275
Repatriation Dept.	..	..	68	3	10	1	4	..	..	..	6	..	..	..	88	4	92
Contact Follow-up	2	1	4	8	4	6	1	..	..	..	..	1	..	..	11	16	27
Mantoux Testing	..	1	..	3	..	1	1	..	..	..	..	..	..	..	1	5	6
Mass X-ray Survey—Health Dept.	..	..	74	31	68	25	8	3	2	..	1	1	..	..	153	60	213
Anti-T.B. Assoc.	..	..	93	28	115	33	17	1	1	..	..	..	..	..	226	62	288
Other	..	..	7	2	10	2	4	..	1	..	..	..	..	..	22	4	26
Death Certificate	..	..	..	..	..	..	..	..	..	..	..	..	85	20	85	20	105
Total	6	4	392	160	373	153	98	19	26	10	59	54	86	20	1,040	420	1,460
							AGE-GROUP (YEARS)										
Under 1	1	..	..	..	..	..	..	1	..	..	1	1	..	..	2	2	4
1-4	3	3	5	2	..	1	1	1	..	..	10	6	..	..	19	13	32
5-9	2	1	2	4	..	1	1	..	..	..	2	6	..	..	7	12	19
10-14	..	..	1	1	..	..	..	..	..	..	1	2	..	..	2	3	5
15-19	..	..	8	3	4	4	1	1	3	3	5	2	..	..	21	13	34
20-24	..	..	23	13	11	6	..	1	2	2	6	7	..	..	42	29	71
25-29	..	..	18	21	12	12	4	1	4	..	5	9	..	..	43	43	86
30-34	..	..	21	16	19	17	3	1	1	..	2	3	2	1	48	38	86
35-39	..	..	27	19	29	14	6	..	3	1	6	6	3	1	74	41	115
40-44	..	..	47	19	35	19	7	2	2	1	3	2	3	1	97	44	141
45-49	..	..	42	15	40	15	12	3	3	..	4	5	7	..	108	38	146
50-54	..	..	49	10	42	10	14	2	3	1	5	2	2	2	115	27	142
55-59	..	..	39	8	47	16	8	1	2	1	2	..	7	3	105	29	134
60-64	..	..	35	8	41	14	7	2	..	..	4	1	10	3	97	28	125
65-69	..	..	29	7	26	10	11	2	..	..	2	..	10	2	78	21	99
70-74	..	..	26	7	35	7	9	..	1	1	..	..	18	1	89	16	105
75 and over	..	..	20	7	32	7	14	1	2	..	1	2	24	6	93	23	116
Not Stated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
All Ages	6	4	392	160	373	153	98	19	26	10	59	54	86	20	1,040	420	1,460

TABLE X—NOTIFICATIONS OF NEW CASES OF TUBERCULOSIS—MIGRANTS—YEAR ENDED 31ST DECEMBER, 1962

	Year of Arrival in Australia																								
	Prio to 1946		1946-1953		1954		1955		1956		1957		1958		1959		1960		1961		1962		Total		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	P.
COUNTRY OF BIRTH																									
United Kingdom	46	12	7	4	1	..	1	1	..	1	1	1	1	2	1	1	2	1	3	2	2	1	65	26	91
Austria	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Czechoslavakia	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Germany	..	..	1	..	..	..	..	2	..	..	..	1	..	..	2	..	..	..	1	..	1	..	5	3	8
Greece	3	..	1	1	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	5	3	8
Hungary	..	..	2	1	..	..	..	..	..	..	1	4	..	..	1	..	..	..	..	..	..	..	4	5	9
Italy	4	..	7	..	..	..	..	1	2	1	2	..	1	2	..	..	2	1	2	..	..	..	20	5	25
Netherlands	1	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	4
Poland	..	..	1	2	..	..	..	..	2	..	..	..	..	..	..	1	1	..	..	1	..	..	4	4	8
Rumania	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
U.S.S.R.	..	..	1	1	..	..	..	..	..	1	..	..	..	..	1	..	1	..	..	..	1	..	4	2	6
Yugoslavia	..	..	2	..	..	..	..	..	..	..	..	..	1	2	2	..	1	..	3	2	1	1	10	5	15
Other European ..	2	1	7	2	..	1	..	1	1	..	..	..	2	..	..	1	2	2	..	1	1	..	15	9	24
Cyprus	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Malta	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
African	..	1	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	2	1	3
China	2	..	2	..	..	1	..	..	1	..	1	1	1	..	1	..	3	..	3	1	3	1	17	4	21
Japan	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Other Asian	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	..	5	..	5
U.S.A.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Canada	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Central/South America	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
New Zealand	2	..	1	..	1	..	1	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	6	2	8
Other	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1
Total	62	14	36	12	2	2	2	5	7	3	6	8	6	6	8	4	12	6	15	7	14	4	170	71	241
STAGE OF DISEASE																									
Primary	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Minimal	19	3	16	6	1	1	1	3	3	..	4	1	1	3	4	..	2	1	5	6	7	1	63	25	88
Mod. Advanced ..	27	7	11	4	1	1	1	2	2	2	2	4	..	..	3	3	6	3	5	..	4	3	62	29	91
Far Advanced ..	9	1	1	..	..	..	..	..	1	..	..	1	1	..	1	..	2	..	1	..	1	..	17	2	19
Pleural Effusion ..	..	..	4	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1	..	1	..	8	..	8
Extra-Pulmonary ..	1	..	3	2	..	..	..	..	..	1	..	2	3	3	..	1	1	2	3	1	1	..	12	12	24
Death Certificate ..	6	3	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	8	3	11
Total	62	14	36	12	2	2	2	5	7	3	6	8	6	6	8	4	12	6	15	7	14	4	170	71	241
SOURCE OF DISCOVERY																									
Priv. Pract.	10	3	5	3	..	..	..	..	1	..	2	1	2	2	1	1	6	1	3	..	4	2	34	13	47
Chest Clinic	8	2	3	2	..	..	..	1	1	..	1	2	..	1	1	1	1	..	2	1	1	..	18	10	28
Sanatorium	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hospital	11	1	11	4	1	1	1	..	2	3	..	2	4	1	1	..	1	3	4	3	..	1	36	19	55
Repat. Dept.	6	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	7	1	8
Contact Follow-up ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Mantoux Testing ..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Mass X-ray Survey—Health Dept. ..	7	5	4	..	1	..	1	1	1	..	3	1	..	1	1	1	2	1	3	1	3	..	26	11	37
Anti-T.B. Assoc. ..	13	..	10	2	..	1	..	3	1	..	..	2	..	..	3	1	2	1	1	2	5	..	35	12	47
Death Certificate ..	6	3	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	8	3	11
Other	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1		1	1	5	1	6
Total	62	14	36	12	2	2	2	5	7	3	6	8	6	6	8	4	12	6	15	7	14	4	170	71	241

Note:—As from 1st July, 1962, migrants arriving prior to 1952 have not been included.

Poliomyelitis—Annual Report, 1962

Senior Medical Officer: Dr. R. W. D. Maxwell, O.B.E., M.B., Ch.B., D.P.H., D.T.M. & H.

Staff: (As at 31st December 1962)—2 Incremental Clerks; 1 Shorthand-writer and Typist; 2 Office Assistants.

INTRODUCTORY

In contrast to the year 1961, during which the Poliomyelitis Vaccination Campaign was seriously impeded by a shortage of poliomyelitis vaccine—and was, in fact, over a period of some four months, limited entirely to the immunisation of infants and children under two years of age with such small quantities of Quadruple Antigen as alone were available—the year 1962 has been marked by the resumption of ample supplies of vaccine and the intensification of the vaccination campaign to an unprecedented level.

In further contrast to the previous year—which saw the commencement, in mid year, of an outbreak of poliomyelitis with mounting monthly notifications of cases and increasing spread throughout the State up to the end of the year—the first month of 1962 marked the peak of the outbreak which was followed first by the commencement of a slow decline and then by a notably abrupt subsidence, with no more than five cases occurring over the last eight months of the year.

Although this report relates particularly to the year 1962, it is felt that the opportunity should be taken to review the 1961-62 outbreak of poliomyelitis—the first resurgence of the disease in this State to any major proportions since the dramatic fall in incidence following the commencement of poliomyelitis vaccination in mid 1956—as a complete episode.

POLIOMYELITIS IN NEW SOUTH WALES—1961 AND 1962

	1961	1962
Cases *notified* as poliomyelitis, or suspected poliomyelitis, during the year (excluding notifications subsequently cancelled by the notifying hospital or medical practitioner)	178	255
Notified case omitted as unconfirmed since no further particulars obtainable from the notifying medical practitioner	..	1
Cases rejected by Poliomyelitis Surveillance Committee—considered to be *not* poliomyelitis	20	36
Cases confirmed as poliomyelitis by Poliomyelitis Surveillance Committee	158	218
Fatal cases	13	12

The foregoing figures for 1961 and 1962 are put into perspective in the following tabulation of poliomyelitis cases and deaths over comparable periods immediately preceding and immediately following the commencement of the Poliomyelitis Vaccination Campaign in this State in July, 1956. It should be pointed out that up to the time of commencement of the Poliomyelitis Vaccination Campaign all cases *notified* as poliomyelitis had been accepted as such, without further enquiry, for inclusion in annual statistics, whereas, from 1957 onwards, all relevant information regarding each notified case (clinical, virological, serological, previous vaccination and so on) has been submitted to an expert Poliomyelitis Surveillance Committee for assessment and final decision as to whether a diagnosis of poliomyelitis is properly acceptable.

Year	Notifications	Confirmed Cases	Fatal Cases
1950	789	..	55
1951	1,528	..	134
1952	414	..	42
1953	625	..	55
1954	552	..	32
1955	223	..	8
1956	240	..	16
1957	58	45	2
1958	23	11	0
1959	28	16	2
1960	16	9	2
1961	178	158	13
1962	255	218	12

It will be seen that, over the two years of 1961 and 1962, 376 ultimately confirmed cases of poliomyelitis, of which 25 were fatal, were notified in New South Wales. To obtain a true picture of the monthly incidence of cases, and the rise and fall of the outbreak which occurred within this period, it is, of course, necessary that these 376 cases should be properly related, not to the year of *notification,* but to the actual year and month of *onset of the disease* in each case. This has been done in Table I and the graph constructed from this table, appended to this report. In further explanation—the first notification of a case of poliomyelitis in 1961 was a delayed notification of a case which had *occurred* in October of the previous year; while 41 notifications received during 1962 referred to cases which had *occurred* in late 1961. (No further 1962 cases have, however, been included in the very few notifications over the first months of 1963, up to the date of writing.) In Tables II, VI, VIII and IX, the single 1960 case has been included in the cases occurring during 1961.

Similarly, in Table I and the related graph, deaths have also been shown against the months in which they *occurred,* and not against the months in which the fatal illnesses commenced. For the purposes of Tables II, VI, VIII and IX, however, the deaths shown are the fatalities amongst the groups of cases enumerated in each year, irrespective of when the death occurred. Thus the 1961 figures in these tables include one fatal case in which the illness commenced in December, 1961, though the patient died in January, 1962. In all other cases deaths occurred in the same year as the illness began.

As will be seen, the year 1961 began with the occurrence of only two cases of poliomyelitis over the first four months, continuing the same pattern of low incidence as in previous years subsequent to the commencement of the Poliomyelitis Vaccination Campaign. The first indication of any disturbing situation appeared in May, when cases commenced to occur in steadily increasing numbers in the Wollongong area and nearby localities on the South Coast. The rise in incidence of cases in this area continued steeply to September, when the peak of a brisk local outbreak was reached, followed by an equally rapid decline. This local outbreak in the Wollongong and South Coast area preceded an extensive spread of the disease throughout the nearby populous area of the capital city of Sydney, and a later scatter throughout the State. It may be noted that the case mortality in the initial outbreak in the South Coast area was 14·5 per cent., as against an overall 5·3 per cent. for all other cases occurring throughout the rest of the State.

The first cases for the year to occur in the Sydney area began to appear in July. There was at first only a small but steady rise in the number of cases over succeeding months, largely in the southern and western suburbs, but in November there was an almost explosive spread throughout the whole metropolitan area. This outbreak in the Sydney area reached its peak over the turn of the year, declined steeply over the first quarter of 1962, and then subsidised quite abruptly. Cases occurring in the Sydney area accounted for 57·4 per cent. of the total for the State (this figure merely reflecting the proportion of the State population within the Sydney area), with a case mortality of 4·2 per cent.

There was no particular indication of any significant further spread of the disease beyond the Sydney area until November of 1961, when there was a sharp increase in the number of cases occurring in other parts of the State. These cases were widely scattered throughout the State with only a few instances of small local aggregations of a few cases. As a minor terminal incident, a small group of cases occurred in the Newcastle area, with maximum incidence over the first quarter of 1962, after which the whole outbreak throughout the entire State subsided with notable abruptness, only five further cases of poliomyelitis occurring anywhere in New South Wales over the last eight months of the year. The last death in 1962 occurred in May.

Considered as a whole, this outbreak in New South Wales had its beginning at the beginning of the Winter of 1961, reached its peak over the following Summer, and came to a sudden end in mid Autumn of 1962.

The geographical distribution of cases and deaths is shown in Table VIII.

Age Groups and Sex

The distribution of cases and deaths by age groups and sex is shown in Table II. The youngest case in the series was a male infant aged 5½ weeks at the time of onset of the disease. This case showed severe paralysis of both arms and mild paralysis of both legs. Type 3 poliovirus was isolated from the faeces. The infant was too young to have commenced poliomyelitis vaccination and the mother had not herself been vaccinated. The oldest case was a fatal case in a male, unvaccinated, aged 62 years. This case showed paralysis of trunk and right shoulder muscles, and also progressive bulbar involvement and progressive respiratory deterioration. No viral studies were made.

Of the total of 376 cases, 55·6 per cent. were males and 44·4 per cent. were females.

Attack Rates

Attack rates per 100,000 persons at risk in each 5-year age group of the population—irrespective of vaccination status—are shown in Table III. These have been calculated on the basis of cases occurring over 1961 and 1962 in relation to population figures for New South Wales as at the 30th June, 1961.

By far the highest incidence of the disease was in the group of children under 10 years of age (28·3 per 100,000) with a relatively low case mortality in this group of 3·2 per cent. There was, however, a significant secondary rise in incidence in the adolescent and young adult group, from 20 to 34 years of age (11·8 per 100,000) with a much higher case mortality in this group of 12·9 per cent.

From 35 years of age onward the incidence of the disease fell rapidly, though four fatalities occurred in this later age group—at 35, 38, 53 and 62 years of age.

A number of cases occurred in young pregnant women but exact figures are not available.

Attack rates considered in relation to vaccination status will be discussed later in this report in connection with the Poliomyelitis Vaccination Campaign.

Virological Examinations

It will be seen from Table IX that of 240 cases in which a poliovirus was isolated, Type 1 virus was identified in 206 cases (85·8 per cent.) of which 11 were fatal, while Type 3 virus was identified in 34 cases (14·2 per cent.) of which 1 was fatal. In no case was Type 2 virus identified.

In two cases of quite severe paralytic poliomyelitis-like illness—one in an 8-year old female, and one in a 25-year old male—Coxsackie B.4 virus was the only virus identified. Neither patient had received any injection of poliomyelitis vaccine.

There was some indication of an increase in the relative frequency of cases due to the Type 3 poliovirus towards the end of the outbreak over the first three months of 1962.

Case rates, per 100,000 at risk, for persons who had received three doses of trivalent poliomyelitis vaccine were 0·35 and 0·42 respectively for Type 1 and Type 3 poliovirus. For persons who had had no vaccination, the corresponding rates were 8·11 and 1·13. This suggested that the vaccine provided much greater protection against Type 1 virus than against Type 3. The total number of poliovirus isolations in cases occurring in the vaccinated group was, however, only small. The Australian poliomyelitis vaccine manufactured at the Commonwealth Serum Laboratories has since been improved by strengthening the Type 3 component, and a fourth dose of the vaccine has been added to the recommended course of immunisation.

Virological studies referred to in this report have been carried out at the Institute of Clinical Pathology and Medical Research at Lidcombe and at the Royal Alexandra Hospital for Children in Sydney.

THE POLIOMYELITIS VACCINATION CAMPAIGN

The total numbers, for the whole State, of injections of poliomyelitis vaccine given from the commencement of the Poliomyelitis Vaccination Campaign in July, 1956, to the 31st March, 1961, are shown in Table IV. Records kept over this period do not enable a break down into age groups to be made beyond the age of 20 years.

After the 31st March, 1961, when the total number of injections given throughout the State was approaching 5 million, local authorities and private medical practitioners were no longer required to submit returns of injections given or vaccine used. Central Departmental records of such injections were then discontinued except for those given at the Department's poliomyelitis vaccination clinic at the Immunisation Centre. Records continued to be kept, however, of the number of doses of poliomyelitis vaccine issued by the Department to local authorities and medical practitioners and the figures for such *issues of vaccine* provide an indication of the further progress of the Campaign. Due allowance should be made for the fact that, by reason of a certain loss of vaccine after issue—for various reasons such as margin of error in measuring individual doses from multi-dose ampoules, vaccine becoming time-expired and so on—the numbers of injections actually given would fall rather short of the numbers of doses issued. Earlier experience, over the period when comparable records of vaccine issued and total numbers of injections given had been kept, had shown that such loss of vaccine amounted to some 6 per cent. of total yearly issues.

Quantities of poliomyelitis vaccine issued in accordance with requests from local authorities and medical practitioners throughout the State over 6-monthly periods from mid 1961 to the end of 1962 were as follows:—

Second half of 1961	279,858 doses*
First half of 1962	759,157 doses
Second half of 1962	1,202,607 doses

*Including 20,713 doses of Quadruple Antigen.

At the beginning of 1962 when, with the outbreak of poliomyelitis still at its height, fully adequate supplies of poliomyelitis vaccine again became available, after a year of serious shortage which had necessitated curtailment of all poliomyelitis vaccination programmes, there was a very large and pressing demand from the public for vaccination. This enabled a very considerable intensification of the whole Poliomyelitis Vaccination Campaign. The staff at the Immunisation Centre was placed under considerable pressure in coping with the despatch of supplies of vaccine to all parts of the State at the urgent request of local authorities and medical practitioners, and in dealing with the greatly increased numbers of persons presenting themselves for vaccination at the Department's poliomyelitis vaccination clinic at the Immunisation Centre. The rapid increase in attendances made it necessary to institute a daily vaccination clinic (Monday to Friday), in place of the previous one day in each week, and a peak of activity was reached when on one particular day over 1,100 injections were given (an average rate of over three per minute over a 5½ hour working session), and over 4,000 persons received injections in one 5-day week.

The introduction, in August 1962, of a fourth dose to the prescribed course of poliomyelitis vaccine brought a further rush of large numbers of eligible persons who had completed their first three injections at any time in the past, and publicity given during the Department's Health Week in October gave still further impetus to the campaign.

Attendances at the Department's poliomyelitis vaccination clinic alone during 1962 numbered 71,200. The extent of the increased activity in providing vaccination at local authority clinics and the surgeries of private medical practitioners may be gauged by the figures given for issue of supplies of poliomyelitis vaccine.

Poliomyelitis Attack Rates in Relation to Age Groups and Vaccination Status

In Table V, which is based on Table IV, an estimate has been made of the vaccination status of the population of New South Wales as at the 31st March, 1961, when central Departmental records of injections of poliomyelitis vaccine given throughout the State were discontinued. Age groups in Table IV refer, of course, to ages *at the* 31*st March*, 1961 (based on recorded years of birth) of persons given injections at any time in the course of the Poliomyelitis Vaccination Campaign. As has been stated previously, available records do not enable a break down into 5-year age groups to be made beyond the age of 20 years. It is appreciated that this estimate does not take into account population changes as the result of births, deaths and migration over the period of some 4½ years to which the records of injections given apply. Nevertheless it is felt that the percentage figures arrived at for the younger age groups below the age of 20 years would represent a reasonable approximation to the relative proportions of fully vaccinated persons (3 injections) and completely unvaccinated persons (no injections) in these age groups—disregarding the older section of the population and the more doubtful groups of the partially vaccinated.

In Table VII, attack rates in relation to vaccination status have been calculated on a similar basis. It is again felt that, even allowing a considerable margin for statistical error, the differences between the attack rates arrived at for fully vaccinated and completely unvaccinated groups are sufficiently wide to indicate that a high degree of protection against poliomyelitis is provided by a complete course of immunisation with the Salk vaccine.

TABLE I—NOTIFICATIONS OF CASES OF POLIOMYELITIS, NEW SOUTH WALES, 1961 AND 1962

(a) Cases by Year of Notification

	Sydney	South Coast	Newcastle	Elsewhere in N.S.W.	Totals for State
1961	69	50	3	36	158
1962	147	5	19	47	218
Total	216	55	22	83	376

(*b*) *Notified Cases by Year and Month of Onset*

	Sydney	South Coast	Newcastle	Elsewhere in N.S.W.	Totals for State
1960—October	....	....	..	1	1
1961—January	..	..	..	1	1
February	..	..	..	..	..
March	..	..	..	..	..
April	..	..	1	..	1
May	..	2	..	1	3
June	..	3	.. (1)	1	4 (1)
July	4 (1)	6 (1)	..	1	11 (2)
August	4	8 (1)	..	4	16 (1)
September	5	15 (2)	..	1 (1)	21 (3)
October	9	11	..	4	24
November	36	3 (2)	2	19 (1)	60 (3)
December	45 (1)	3 (1)	1	8	57 (2)
Total—1961	103 (2)	51 (7)	4 (1)	40 (2)	198 (12)
1962—January	46 (2)	2	9	8	65 (2)
February	39 (2)	..	3	13 (2)	55 (4)
March	22 (2)	1 (1)	5	18 (2)	46 (5)
April	4	..	1	1 (1)	6 (1)
May	1 (1)	1	..	..	2 (1)
June	..	..	..	..	..
July	..	..	..	1	1
August	..	..	..	..	..
September	..	..	..	..	..
October	..	..	..	1	1
November	1	..	..	..	1
December	..	..	..	..	..
Total—1962	113 (7)	4 (1)	18	42 (5)	177 (13)
Grand Total	216 (9)	55 (8)	22 (1)	83 (7)	376 (25)

Figures in parentheses indicate deaths which *occurred* in the months indicated

Case Mortalities

	%	
South Coast	14·5	
Sydney	4·2	5·3%
Newcastle	4·5	
Elsewhere in N.S.W.	8·4	
State as a whole	6·6	

TABLE II—POLIOMYELITIS, NEW SOUTH WALES, 1961 and 1962—DISTRIBUTION OF CASES AND DEATHS BY AGE GROUPS AND SEX

Cases

Age Groups (years)	Male			Female			Total		
	1961	1962	Total	1961	1962	Total	1961	1962	Total
Under 1	6	2	8	6	4	10	12	6	18
1- 4	49	20	69	34	20	54	83	40	123
5- 9	23	20	43	18	16	34	41	36	77
10-14	5	9	14	6	9	15	11	18	29
15-19	3	5	8	4	6	10	7	11	18
20-24	6	9	15	6	5	11	12	14	26
25-29	13	20	33	8	5	13	21	25	46
30-34	4	5	9	5	7	12	9	12	21
35-39	2	3	5	..	3	3	2	6	8
40-44	1	1	2	..	2	2	1	3	4
45-49	..	..	..	..	2	2	..	2	2
50-54	..	2	2	..	1	1	..	3	3
55-59	..	..	..	..	..	..	..	..	..
60-64	..	1	1	..	..	..	..	1	1
	112	97	209	87	80	167	199	177	376

Deaths

Age Groups (years)	Male			Female			Total		
	1961	1962	Total	1961	1962	Total	1961	1962	Total
Under 1	..	..	..	..	..	..	..	..	..
1- 4	1	..	1	1	..	1	2	..	2
5- 9	1	1	2	2	1	3	3	2	5
10-14	..	..	..	..	1	1	..	1	1
15-19	..	..	..	1	..	1	1	..	1
20-24	1	..	1	1	1	2	2	1	3
25-29	2	2	4	1	..	1	3	2	5
30-34	1	1	2	..	2	2	1	3	4
35-39	1	..	1	..	1	1	1	1	2
40-44	..	..	..	..	..	..	..	..	..
45-49	..	..	..	..	..	..	..	..	..
50-54	..	1	1	..	..	..	..	1	1
55-59	..	..	..	..	..	..	..	..	..
60-64	..	1	1	..	..	..	..	1	1
	7	6	13	6	6	12	13	12	25

Overall Case Mortality: 6·6 per cent.

TABLE III—POLIOMYELITIS ATTACK RATES (PER 100,000) BY AGE GROUPS, JANUARY, 1961 TO DECEMBER 1962

Age Groups (years)	Population of N.S.W. by Age Groups (as at 30 June, 1961).	Cases (1st January, 1961 to 31st December, 1962)	Attack Rates	
0- 4	396,577	141 (2)	35·6	28·3
5- 9	373,620	77 (5)	20·6	
10-14	369,409	29 (1)	7·9	
15-19	301,434	18 (1)	6·0	
20-24	263,054	26 (3)	9·9	11·8
25-29	248,059	46 (5)	18·5	
30-34	279,890	21 (4)	7·5	
35-39	291,131	8 (2)	2·7	
40-44	259,899	4	1·5	
45-49	250,393	2	0·8	
50-54	216,529	3 (1)	1·4	
55-59	173,634	....	0·0	
60-64	150,511	1 (1)	0·7	
65 and over	342,873	....	0·0	
Total: All Age Groups	3,917,013	376 (25)	9·6	

Deaths shown in parentheses

Case Mortalities: 0- 9 years 3·2 per cent.
20-34 years 12·9 per cent.

TABLE IV—INJECTIONS OF POLIOMYELITIS VACCINE GIVEN: TOTALS FOR NEW SOUTH WALES FROM COMMENCEMENT OF POLIOMYELITIS VACCINATION CAMPAIGN IN JULY, 1956 TO 31ST MARCH, 1961*

Age Groups (years)	First Injections Given (A)	Second Injections Given (B)	Third Injections Given (C)
0- 4	268,541	254,557	200,339
5- 9	327,284	321,859	311,811
10-14	328,165	325,286	314,589
15-19	220,705	215,978	205,104
Total: 0-19	1,144,695	1,117,680	1,031,843
Others: 20 and over ..	466,397	446,578	392,493
Total: All Age Groups	1,611,092	1,564,258	1,424,336

Total Injections: 4,599,686

*Central Departmental records of injections given throughout the State were discontinued after 31st March, 1961.

Table V—Estimated Poliomyelitis Vaccination Status of the Population of New South Wales as at 31st March, 1961

Age Groups (years)	Population of N.S.W. by Age Groups (As at 30th June, 1961)	Persons having had *three* injections (Table IV: C)		Persons having had *two* injections only (Table IV: B minus C)		Persons having had *one* injection only (Table IV: A minus B)		Persons having had no vaccination	
		Number	%	Number	%	Number	%	Number	%
0- 4	396,577	200,339	50·5	54,218	13·7	13,984	3·5	128,036	32·3
5- 9	373,620	311,811	83·4	10,048	2·7	5,425	1·5	46,336	12·4
10-14	369,409	314,589	85·1	10,697	2·9	2,879	0·8	41,244	11·2
15-19	301,434	205,104	68·0	10,874	3·6	4,727	1·6	80,729	26·8
Total: 0-19 ..	1,441,040	1,031,843	71·6	85,837	6·0	27,015	1·9	296,345	20·5
Others 20 and over	2,475,973	392,493	15·8	54,085	2·2	19,819	0·8	2,009,576	81·2
All Ages	3,917,013	1,424,336	36·3	139,922	3·6	46,834	1·2	2,305,921	58·9

Table VI—Poliomyelitis Vaccination Status of Cases of Poliomyelitis Occurring over Period 1st January, 1961 to 31st December, 1962

Age Groups (years)	Had three injections			Had two injections			Had one injection			Had no vaccination		
	1961	1962	Total	1961	1962	Total	1961	1962	Total	1961	1962	Total
0- 4 ..	4	2	6	5	..	5	8	2	10	78 (2)	42	120 (2)
5- 9 ..	1	3	4	1	..	1	3 (1)	1	4 (1)	36 (2)	32 (2)	68 (4)
10-14 ..	2	5	7	..	1	1	..	2	2	9	10 (1)	19 (1)
15-19 ..	..	2	2	..	..	..	..	1	1	7 (1)	8	15 (1)
Others 20 and over ..	1	5 (1)	6 (1)	..	1	1	1 (1)	1	2	43 (7)	59 (8)	102 (15)
All Ages ..	8	17 (1)	25 (1)	6	2	8	12 (1)	7	19 (1)	173 (12)	151 (11)	324 (23)

Figures in parentheses indicate deaths

Table VII—Poliomyelitis Attack Rates (per 100,000) by Age Groups and Vaccination Status—1st January, 1961 to 31st December, 1962

Age Groups (years)	Three Injections			Two Injections			One Injection			No Vaccination		
	No. of persons at Risk	Cases	Rate	No. of persons at Risk	Cases	Rate	No. of persons at Risk	Cases	Rate	No. of persons at Risk	Cases	Rate
0- 4	200,339	6	3·0	54,218	5	9·4	13,984	10	71·5	128,036	120	93·7
5- 9	311,811	4	1·3	10,048	1	10·0	5,425	4	73·7	46,336	68	146·7
10-14	314,589	7	2·2	10,697	1	9·3	2,879	2	69·5	41,244	19	46·1
15-19	205,104	2	1·0	10,874	..	0·0	4,727	1	21·2	80,729	15	18·6
Total 0-19 ..	1,031,843	19	1·8	85,837	7	8·2	27,015	17	62·9	296,345	222	74·9
Others: 20 and over	392,493	6	1·5	54,085	1	1·8	19,819	2	10·1	2,009,576	102	5·1
All Ages ..	1,424,336	25	1·8	139,922	8	5·7	46,834	19	40·6	2,305,921	324	14·1

TABLE VIII—GEOGRAPHICAL DISTRIBUTION OF CASES. (YEARS OF ONSET.)

Sydney and Environs

	1961	1962	Total		1961	1962	Total
Annandale	1	1	2	La Perouse	1	..	1
Arncliffe	..	1	1	Leichhardt	1	..	1
Artarmon	..	1	1	Maroubra	..	1	1
Ashfield	1	1	2	Marrickville	1	..	1
Asquith	..	1	1	Mascot	1	..	1
Auburn	1	1 (1)	2 (1)	Matraville	1	2	3
Bankstown	..	2	2	Menangle Park	..	1	1
Belfield	1	..	1	Merrylands	2	1	3
Bellevue Hill	..	1	1	Milperra	1	..	1
Bexley	..	1	1	Mt. Colah	..	1	1
Blacktown	3	5	8	Mt. Druitt	2	3	5
Bondi	2	1	3	Mt. Pritchard	3	..	3
Bondi Junction	..	1	1	Naremburn	1	..	1
Bonnyrigg	1	..	1	Neutral Bay	..	1	1
Bradfield Park	6	..	6	Newtown	2	3	5
Cabramatta	1	4	5	North Ryde	..	2	2
Cammeray	..	1	1	North Sydney	1	1	2
Camperdown	..	1	1	Paddington	..	1	1
Campsie	2	..	2	Padstow	..	2	2
Canley Vale	..	3	3	Panania	1	..	1
Caringbah	..	1	1	Parramatta	3	1	4
Carramar	1	..	1	Peakhurst	2	..	2
Castle Hill	2	..	2	Petersham	1	..	1
Condell Park	..	1	1	Potts Point	1	..	1
Cowan	1	..	1	Punchbowl	2	1	3
Cronulla	..	1 (1)	1 (1)	Quakers Hill	..	1	1
Crows Nest	..	1	1	Redfern	3	1	4
Darlinghurst	1	..	1	Regents Park	..	1 (1)	1 (1)
Darling Point	1	..	1	Revesby	1	..	1
Dee Why	1	2	3	Riverstone	..	2	2
Doonside	1	..	1	Riverwood	2	2	4
Dural	1	..	1	Rooty Hill	1	..	1
Earlwood	1 (1)	..	1 (1)	Rozelle	2	..	2
East Hills	1 (1)	..	1 (1)	Rydalmere	1 (1)	..	1 (1)
Eastwood	..	1	1	Ryde	1	4	5
Elanora	..	2	2	St. Ives	1	..	1
Engadine	..	1	1	St. Leonards	..	1	1
Ermington	1	2	3	St. Marys	3	6	9
Erskineville	..	1	1	St. Peters	1	..	1
Fairfield	1	2	3	Seaforth	..	1	1
Forest Lodge	1	..	1	Seven Hills	6	3	9
Granville	2	..	2	Smithfield	1	2	3
Green Valley	1	..	1	Stanmore	1	..	1
Guildford	1	5	6	Surrey Hills	1	..	1
Hammondville	1	..	1	Sydney City	1	..	1
Harris Park	1	..	1	Tempe	..	1	1
Homebush	1	..	1	Toongabbie	..	2 (1)	2 (1)
Horsley Park	..	1	1	Turramurra	1	1	2
Hoxton Park	1	..	1	Vaucluse	..	1	1
Hurstville	..	1 (1)	1 (1)	Villawood	4	1	5
Jannali	1	..	1	Wentworthville	..	1	1
Kensington	..	1	1	West Ryde	2	1	3
Kings Cross	..	1 (1)	1 (1)	Willoughby	1	1	2
Kingsford	..	1	1	Windsor	..	2	2
Kirrawee	..	1	1	Yagoona	..	1	1
Kirribilli	..	1	1				
Lalor Park	..	3	3		103 (3)	113 (6)	216 (9)

Wollongong and South Coast

	1961	1962	Total		1961	1962	Total
Wollongong and environs	37 (6)	3	40 (6)	Kiama	1	..	1
Shellharbour	8	..	8	Bomaderry	1	..	1
Port Kembla	3 (1)	..	3 (1)	Nowra	1	1 (1)	2 (1)
					51 (7)	4 (1)	55 (8)

Newcastle and Vicinity

	1961	1962	Total		1961	1962	Total
Adamstown	2	1	3	Speers Point	1	..	1
Cooks Hill	..	1	1	Wallsend..	..	3	3
Edgeworth	..	3	3	South Wallsend	..	1	1
Gateshead	..	1	1	West Wallsend	..	2	2
Kotara Heights	..	1	1	Young Wallsend	..	1	1
Lambton..	..	1	1	Warners Bay	..	1	1
New Lambton	..	1	1	Windale	1 (1)	..	1 (1)
Raymond Terrace	..	1	1				
					4 (1)	18	22 (1)

Elsewhere in New South Wales

	1961	1962	Total		1961	1962	Total
Albury	1	..	1	Junee	..	1	1
Armidale	1	..	1	Kandos	..	1	1
Bateau Bay via Gosford ..	1	..	1	Keepit Dam near Gunnedah ..	..	1	1
Batemans Bay	..	1 (1)	1 (1)	Kelvin	..	1	1
Bathurst	1	..	1	Kempsey..	1	..	1
Beresfield	..	1	1	Lismore	..	3	3
Binalong	..	1	1	Lucknow	..	1	1
Bombala	1	..	1	Marulan	..	1	1
Bourke	7 (1)	..	7 (1)	Mittagong	..	1	1
Breeza	1	..	1	Moree	..	3	3
Brewarrina	1	..	1	Mudgee	1	1	2
Burnt Bridge Aboriginal Station				Nyngan	..	1	1
near Kemspey	1	..	1	Oberon	..	1	1
Campbelltown	1	..	1	Orange	..	1 (1)	1 (1)
Cessnock	1	..	1	Peak Hill	2	..	2
Clandulla	..	1	1	Queanbeyan	..	2 (1)	2 (1)
Coffs Harbour	..	2	2	Quirindi	..	1	1
Comobella	1	..	1	Singleton	1	..	1
Condobolin	1	..	1	Tamworth	..	2	2
Coonamble	5	..	5	Taree	..	2	2
Dubbo	..	1	1	Tenterfield	1	..	1
Enngonnia	1	..	1	The Entrance	1	..	1
Frederickton	1 (1)	..	1 (1)	Toukley, via Gosford	1	..	1
Gangat via Gloucester ..	..	1	1	Tygalgah..	1	..	1
Geurie	..	1	1	Umina, near Gosford	..	1 (1)	1 (1)
Gloucester	1	..	1	Urunga	..	1	1
Goulburn	..	2 (1)	2 (1)	Warren	1	..	1
Grenfell	1	..	1	Wellington	2	1	3
Heathcote	..	1	1	Wisemans Ferry	..	1	1
Hillston	..	1	1	Woy Woy	..	1	1
Jerrawa	1	..	1				
					41 (2)	42 (5)	83 (7)
				Totals: Whole State ..	199 (13)	177 (12)	376 (25)

Figures in parentheses indicate deaths.

Table IX—Virological Examinations

(*a*) *Summary of Results*

	Cases			Deaths		
	1961	1962	Total	1961	1962	Total
Type 1 poliovirus isolated	126	80	206	9	2	11
Type 3 poliovirus isolated	13	21	34	1	..	1
No virus isolated from specimens examined	41	52	93	2	2	4
No virological studies made	18	23	41	1	8	9
Coxsackie B.4 virus isolated	1	1	2	..	..	..
	199	177	376	13	12	25

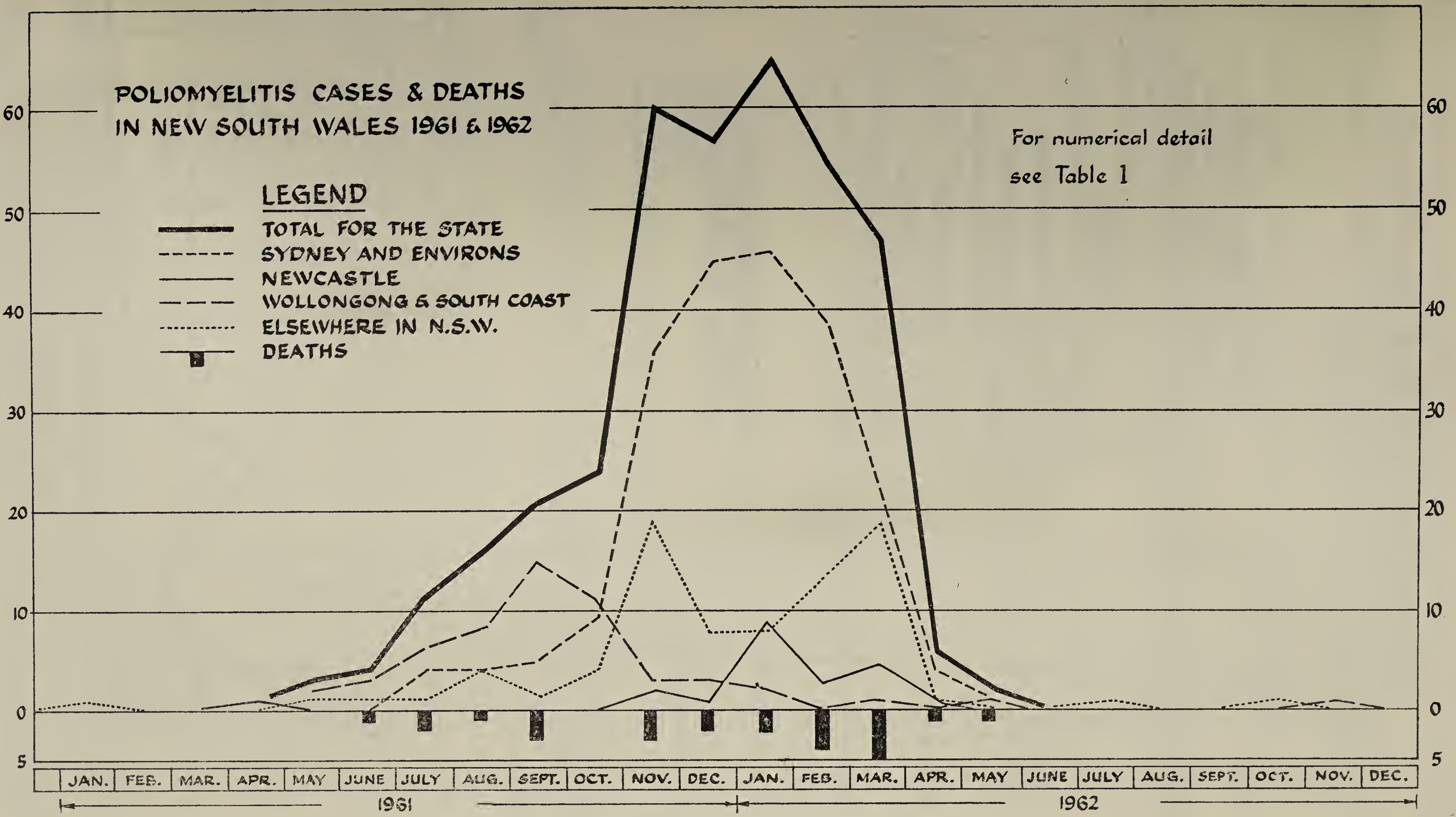
(*b*) *Poliovirus isolations:* Type of virus per cent. of total isolations

	1961	1961	1961 and 1962
	per cent	per cent	per cent
Type 1	90·6	79·2	85·8
Type 3	9·4	20·8	14·2

(*c*) *Poliovirus isolations related to vaccination status of cases*

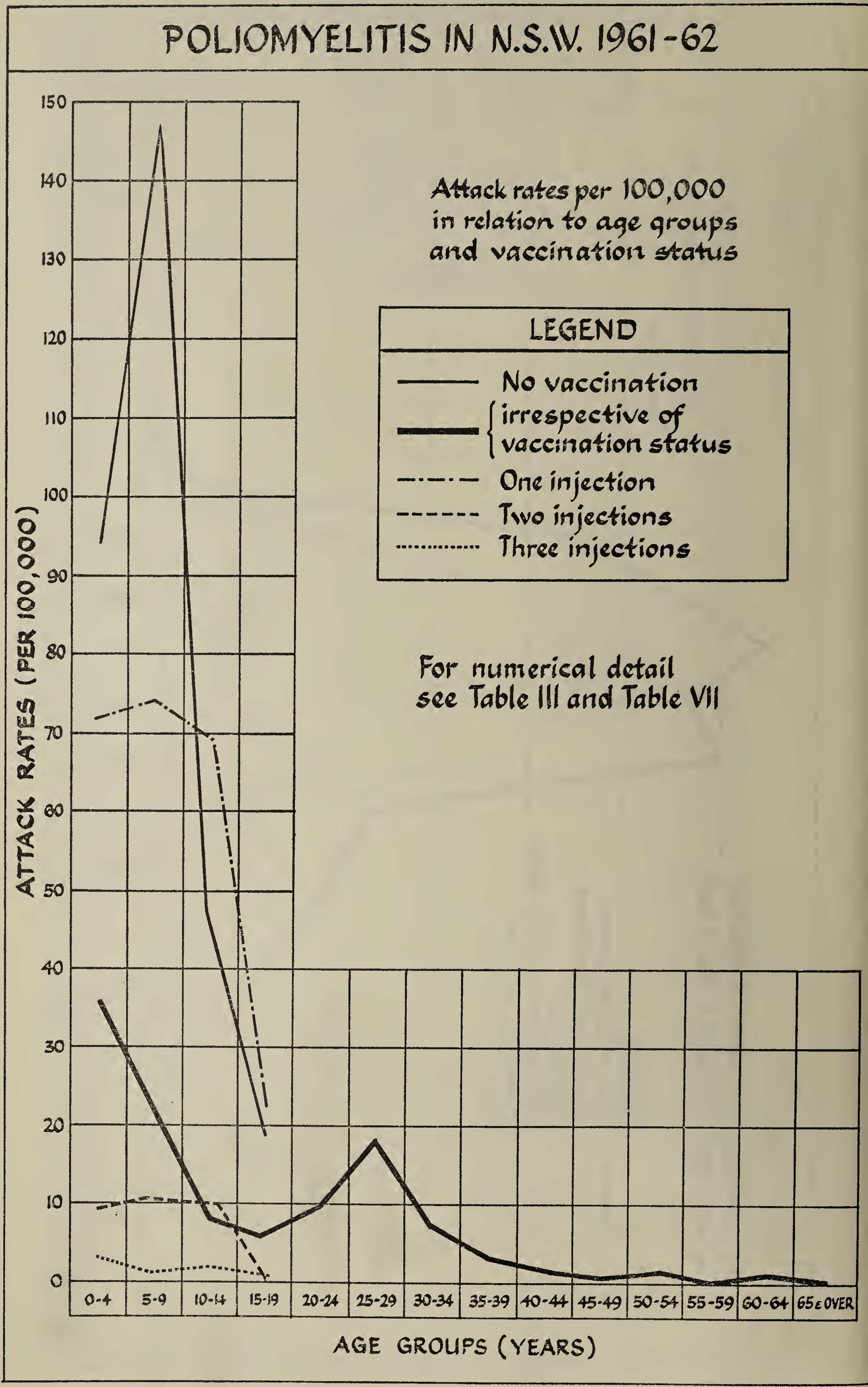
Vaccination status	Estimated population at risk (Table V)	Cases 1961 and 1962		Case Rates*	
		Type 1	Type 3	Type 1	Type 3
3 injections	1,424,336	5	7	0·35	0·42
2 injections	139,922	3	1	2·14	0·71
1 injection	46,834	11 (1)	..	23·49	..
No vaccination	2,305,921	187 (10)	26 (1)	8·11	1·13
	3,917,013	206 (11)	34 (1)	5·26	0·87

* Per 100,000 at risk.
Deaths shown in parenthesis.



POLIOMYELITIS CASES & DEATHS IN NEW SOUTH WALES 1961 & 1962

For numerical detail see Table 1



POLIOMYELITIS IN N.S.W. 1961-62

Attack rates per 100,000 in relation to age groups and vaccination status

For numerical detail see Table III and Table VII

Leper Lazaret

REPORT ON LEPROSY IN NEW SOUTH WALES FOR THE YEAR ENDED 31ST DECEMBER, 1962

On 1st January, 1962, eight (8) persons remained under detention at the Lazaret.

No deaths occurred during 1962.

The total number of persons admitted since 1883, when patients were first received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900), is 241. Distributed under nationalities, the following Table shows movements of patients during the year:—

	Admitted	Re-admitted	Dis-charged	Repat-riated	Died	Remaining in at 31st December, 1959
Whites of European descent—						
New South Wales	1	..	1	..	..	5
Malta	..	..	1	..	..	..
Greece	1	..	..	..	..	1
Coloured Patients—						
New South Wales	..	..	..	..	..	1
Indian	..	..	..	..	..	1
Totals	2	..	2	..	..	8

In Lazaret on 1st January, 1962 (4 males, 4 females)	8
Admitted during the year	2
Died during the year	..
Discharged	2
Repatriated	..
Re-admitted	..
Remaining in Lazaret on 31st December, 1962 (4 males, 4 females)	8

Every opportunity has been offered to members of the medical profession to visit the Lazaret for the purpose of seeing such patients as were formerly under their care, or for the study of the disease.

The following statements show the expenditure for the year, and the source from which it has been defrayed.

Statement showing the Working Expenses of the Lazaret (for men and for women) at Little Bay for the year 1962:—

	£	s.	d.
Salaries..	6,764	18	10
Provisions	2,284	3	2
Tobacco, Comforts and Amusement	180	14	1
Clothing, etc.	559	3	3
Fuel and Light	625	14	0
Drugs, Dressings, etc.	346	15	9
Miscellaneous	1,133	0	8
	£11,894	9	9

Deduct amounts received in respect of maintenance including contributions by the Commonwealth under the Hospital Benefits agreement £2,502 6s. 3d., nett cost £9,392 3s. 6d. Average number of patients resident, 8·08 being equal to an average of £1,472 1s. 10d. per inmate per annum in 1962.

PUBLIC HEALTH ADMINISTRATION

Government Analyst Branch—Annual Report, 1962

Government Analyst: Mr. E. S. Ogg, B.Sc. (Hons.), A.R.A.C.I.

Deputy Government Analyst: Mr. W. F. Fisher, A.S.T.C., A.R.A.C.I.

The establishment comprised 20 Analysts, 2 Microbiologists, 1 Laboratory Assistant, 10 Laboratory Assistants-in-training, 5 Laboratory Attendants, 1 Laboratory Cleaner and 4 Office Assistants.

The number of samples examined during the year totalled 30,904 as against 28,833 for the year 1961, the comparative figures being tabulated below:—

Authority	Samples examined			
	1961		1962	
Pure Food Act—				
Milk	10,494		10,348	
Meat	6,230		7,017	
Smallgoods	269		169	
Other foods	1,268		1,277	
Drugs, etc.	19		62	
		18,280		18,873
Public Services of the State—				
Subsidised Institutions	473		509	
Government Stores Dept.	262		451	
Police authorities	361		342	
Coroners enquiries	2,025		2,287	
State, Municipal and Departmental Authorities—				
Waters	570		782	
Sewages	263		194	
Division of Occupational Health	341		320	
Department of Prisons	51		48	
Department of Labour and Industry	18		9	
Miscellaneous authorities	253		240	
		4,617		5,182
Bacteriological Examinations—				
Food	231		246	
Water—				
Routine	2,629		3,891	
Pollution research	300		....	
Miscellaneous	2,776		3,712	
		5,936		6,849
		28,833		30,904

The following is a brief resumé of the activities of the various sections:—

Milk

The number of milks examined during the year remained much the same as in the two previous years. The position as regards adulteration in the metropolitan area remained fairly constant. As regards country areas, the percentage of samples showing deficiency in fat content more than halved itself, whilst on the other hand there was a 66 per cent. increase in the percentage of samples showing added water from these areas. This picture of the country areas is somewhat clouded, owing to an approximate 50 per cent. falling off in the number of samples submitted from the country.

This falling off is no doubt due to initial organisation difficulties in the formation of the new Health Districts.

Particulars of samples and adulterations are shown in Appendix 3 together with the 1961 figures for comparison purposes.

Ewe's Milk

A further batch of 59 samples of ewe's milk was analysed in connection with the research project of the C.S.I.R.O. commenced during the preceding year, making a total of 184.

Other Milk Products

Of 353 samples of cream analysed, one was deficient in fat content, two contained foreign fat, and one contained preservative (peroxide).

Two out of 21 samples of butter contained excess water.

Ten out of 18 samples of cheese were either deficient in fat or contained excess water.

One sample out of 25 samples of ice cream examined was below standard.

Meat Products

There was an increase of 12 per cent. in the number of meat samples submitted. The number examined is approaching the maximum that can be examined within the existing laboratory space, so that it has been necessary to place the Health Districts and the Food Inspection Branch on a rigid monthly quota of samples.

There has been a marked rise in the number of adulterations in meat samples during the year. The percentage of minced meats containing preservative rose to 16·5 per cent. as against 11·6 per cent. in 1961 and 8·5 per cent. in 1960. As regards sausages and sausage meat, the percentage showing excess preservative fell from 12·0 per cent. in 1961 to 8·9 per cent. in 1962. The number containing excess fat was 196 as against 129 in 1961. Three samples contained excess starch. In all, there was a total of 803 adulterated samples (11·5 per cent. of samples submitted) as against 560 (8·0 per cent.) in 1961.

Regular weekly samples of meat (152 in all) supplied under government contract were examined and of these 32 contained excess fat as against 13 in 1961. The maximum fat content permitted in these samples is 20 per cent. against 28 per cent. under the Pure Food Act. In addition, 2 samples contained excess starch.

Twenty-one out of 169 samples of smallgoods contained excess starch and 1 contained excess preservative.

Other Foods

The satisfactory position as regards staff in this section, referred to in last year's report, proved very temporary and the section was continuously short-handed. Considerable progress was made with regard to assembling a collection of standard methods for the analysis of the products handled in this laboratory.

Surveys were carried out on tomato purees, soft drinks, canned and smoked fish (for colour and preservative), canned meats, soy sauces, canned fruits.

A satisfactory method was evolved for the determination of the antioxidants, butylated hydroxy anisole and butylated hydroxy toluene (BHA and BHT) in fats and other products.

BHA was detected in deep-frying fat and BHT in a shortening used for baked leavened products. BHT was also found in an imported chewing gum.

Following advice from Queensland that the presence of mould in bread affects the crude fibre determination, investigations were carried out in this laboratory. It was found that a heavily moulded bread gave a crude fibre figure approximately 50 per cent. higher than the true figure. However, a slight degree of mould contamination did not have any significant effect. This investigation is to be continued.

Samples of imported mushrooms from Italy were found to contain appreciable quantities of sand and their sale was prohibited. This product was relatively very poor in quality.

A new type of slimming roll on the market was characterised by a very dry open, flaky texture. They are made from a yeast-leavened dough with the addition of a high proportion of gluten (approximately 36 per cent. protein on an 11 per cent. moisture basis). It is the opinion of this laboratory that these rolls are properly classified as bread.

Fruit Spreads

Examination of so-called " Fruit Spreads " was continued during the year. Some are intended to be used specifically as pastry fillings, while some are on the retail market and are intended as a cheap substitute for jam. They consist principally of a paste of gelatinised starch, artificially coloured and flavoured. Fruit as such is either non-existent or present in insignificant quantity. These products are very poor substitutes for jam and fruit fillings, and consideration should be given to prohibition of their use.

A Diabetic Orange Cordial was found to contain benzoic acid preservative. Preservatives are not allowed in Diabetic or Invalids Foods. Marketing of some of these products would be difficult without using a preservative. On the other hand it would appear that with some products advantage is being taken of the permission to use saccharin, by labelling them as suitable for diabetics.

A large stock of canned pickled cucumbers was sampled for examination. A number of cans were leaking and a large proportion of the cucumbers were soft and deteriorated.

A consignment of canned Herrings in Tomato Sauce on sale at the Royal Easter Show were found to be swollen and deteriorated.

Samples of imported fruit juice products labelled as " Concentrates " were found to consist of approximately 50 per cent. fruit juice and 50 per cent. sugar. Under the N.S.W. Regulations they should be described as fruit juice cordials.

Alcoholic Liquors

Forty-one out of 52 samples of spirits examined were found to contain added water. Of 61 samples of beer, one contained approximately 10 per cent. of added water. Five samples of wine conformed with the standard.

Drugs

Three samples of barium sulphate were found to contain soluble barium compounds and one sample of barium sulphate failed to pass the sedimentation test.

Two samples of tablets had unsatisfactory rates of disintegration.

Eleven further samples of drug preparations failed to pass the standards laid down by the British Pharmacopoeia.

Trace Metals

861 determinations were carried out on biological specimens for trace metals, distributed as follows, the figure for 1961 being included in brackets:—

Lead	558 (660)
Arsenic	184 (137)
Mercury	46 (34)
Thallium	37 (20)
Other metals (Cr, Mn, Sb, Zn, F) ..	36 (21)

Biochemical Section

Ninety-two specimens of bloods and stomach washes were submitted from hospitals and general practitioners. Of these, 84 contained barbiturates.

Blood Specimens

In all, reports were issued on 708 blood samples examined for alcohol during the year. Results were as follows:—

Alcoholic content mg./100 ml.	Coroners exhibits	C.I.B.	Other sources
Negative	289	1	7
0— 50	64	Nil	Nil
51—100	47	2	2
101—150	58	7	8
151—200	59	4	13
201—250	65	4	16
251—300	27	1	7
301—350	9	1	2
351—400	9	Nil	Nil
More than 400	4	Nil	2

Coronial Enquiries

The work in this section continued to increase. Exhibits in connection with 514 cases of sudden death were submitted last year as against 409, 310, 269 respectively in the three preceding years. There is a considerable backlog in this work and the necessity of diverting extra Analysts to this section has somewhat disorganised the other sections of the laboratory.

Details of the results are given in Appendix 1.

Barbiturates accounted for 135 cases. Four cases were due to organic phosphate poisoning and there was 1 death from thallium.

Criminal Investigation

342 investigations were carried out for the Police Department, the nature of the exhibits and attendant charges being listed in Appendix 2.

Water, Sewages, etc.

The number of routine samples of water submitted for chemical examination showed a sharp increase (33 per cent.) during the year, whilst the number of routine sewage examinations fell by 26 per cent., giving an overall increase in routine analyses of approximately 17 per cent.

Increased interest in fluoridation of waters is shown by an increase in fluoride determinations from 31 in 1961 to 132 this year. Fluoridation is now being applied at Orange (2 plants) Goulburn, Yass and regular monthly samples from the plant and reticulation at those centres are examined for fluoride content. Eight advisory inspections of proposed country supplies were carried out by Analysts from the Branch in conjunction with an officer of the Public Works Department. In future, the Department will be represented on these advisory inspections by an officer from the particular Health District concerned. To assist in this changeover, a course of instruction was conducted for the Senior Health Inspectors from the various Health Districts. A number of Fluoridation Courses of Instruction were also carried out for supervisors and operators of proposed fluoridation plants.

Considerable activity was shown by local government authorities during the year in pollution caused by trade wastes and in stream pollution. This raises the question of what are suitable standards for the discharge of effluents into natural watercourses, and it is abundantly clear that no fixed standard is possible and that every case must be considered individually.

It also becomes more and more evident that a single controlling authority is necessary to handle these questions of water pollution. The number of authorities involved in any single pollution problem must be a source of confusion to those authorities and to the trade concerned.

Water (Bacteriological)

This section remained very active during the year.

George's River

An investigation was made of the pollution of George's River and its tributaries. This resulted originally from the finding of an undesirable level of faecal pollution in baths in the Bankstown area in the early part of the year. These particular samples were taken following heavy rain and such results are not uncommon under those conditions. Subsequent sampling of these baths produced medium bacteriological levels. In the survey that followed the main sources of pollution were revealed as sewage effluents from a number of treatment works, and drainage waters from habitated areas. Sullage waters from unsewered sections of the Bankstown, Fairfield and Liverpool municipalities were responsible for heavy pollution.

In this latter connection contamination of streams from sullage water in the outer metropolitan area is extremely high. Thirty-eight samples of sullage water (untreated or partly treated) from 23 different streets showed a dangerously high level of faecal pollution as summarised below:—

Average faecal coli per 100 *ml.*	
0-10,000	6 samples
10,000-100,000	12 samples
100,000-1,000,000	13 samples
1,000,000-10,000,000	6 samples
Greater than 10,000,000	1 sample

The majority of these results are similar to, and in a number of cases much greater than results recorded for sewage and septic tank effluents.

Stream Pollution

Investigations of polluted stream waters were continued. The following organisms were isolated from waters where the pollution was previously from grazing animals: salmonella typhi murium, s. lindern, s. charity and s. wandsbek. With regard to the latter, this is only the second time that the finding of this organism has been reported in the world. All isolations were made when the E. coli index was less than 150 per 100 ml.

Food Bacteriology

Cake Mixes. Following on overseas reports on the presence of salmonella in cake mixes, a survey was made of 47 samples of cake mix with negative results. This was no doubt due to the fact that egg products are not used in Australian cake mixes.

Routine testing of coconut for salmonella also proved negative.

Oysters. The checking of oysters from the George's River area was continued. Fifteen per cent. of the samples did not conform with the standard laid down in the U.S.A. for marketable oysters.

Meat Meals and Fertilisers

A small scale survey of fertilisers and of meat and bone meals from one source showed that 10 out of 30 samples contained salmonella. From 6 of these 2 or more serotypes were recovered as follows: s. cubana 6 times; s. lexington 5 times; s. orienberg 3 times; s. seftenberg twice, and s. taksony and s. cambridge once each. It was shown that at one time during the course of production the products were sterile. Contamination occurred during milling, mixing and storing.

Miscellaneous Bacteriological Examinations

The following miscellaneous bacteriological examinations, quite foreign to the activities of the Branch, were carried out:—

Prostatic smears for gonorrhea	1,565
Cultures for sensitivity	613
Rats for plague	534

Staff and Accommodation

The staff position has once again deteriorated, there being a continual shortage of Analysts and Laboratory Assistants throughout the year. The accommodation remains hopelessly inadequate. Though a number of rooms were acquired from the former Pathological Laboratories, these have proved of limited use for analytical work. Though repeated requests have been made for urgent alterations, there has been no result on those lines.

APPENDIX 1—CORONIAL INVESTIGATIONS

No poison	129
Alcohol	340
Alcohol—Nil	285
Arsenic	12
Barbiturates—	
Amylobarbitone	13
Allobarbitone	1
Butobarbitone	7
Cyclobarbitone	2
Pentobarbitone	81
Phenobarbitone	6
Quinalbarbitone	13
Thiopentone	1
Unclassified	11
Bromine	18
Bromvaletone	1
Chloral hydrate	8
Carbon monoxide	26
Carbromal	23
Creosote	1
Chlorpromazine	1
Cyanide	5
Dichlorodiethyl ether	1
Glutethimide	1
Hydroxychloroquine	1
Lysol	2
Mercury	1
Parathion	3
Phenolphthalein	1
Phenothiazine	1
Phosphorothiolothionate	1
Phenacetin	3
Phenytoin	1
Sodium chloride (drowning)	15
Salicylic acid	9
Sulphadimidine	1
Strychnine	4
Thallium	1

Appendix 2—Criminal Investigations

Blood	26	Driving under the influence; stabbing; death.
Paint	76	Break, enter and steal; goods in custody.
Tools	10	Break, enter and steal.
Pills	57	Death; possession; abortion.
Clothing	27	Indecent assault; housebreaking; manslaughter.
Miscellaneous ..	156	Possession of drugs; suspected poisoning; death; supplying liquor without license; arson; etc.

Appendix 3—Milk Samples

District of Collection Collection		Number of milk samples collected	Deficient in milk fat		Containing added water		Deficient in milk fat and containing added water		Total adulterations	
			Number and proportion of adulterations found							
			No.	%	No.	%	No.	%	No.	%
Metropolitan area ..	1962	3,322	4	0·12	42	1·26	6	0·18	52	1·56
	1961	3,359	10	0·30	39	1·16	2	0·06	51	1·52
Country districts ..	1962	733	12	1·63	20	2·73	1	0·14	33	4·50
	1961	1,340	46	3·43	22	1·64	12	0·90	80	5·97
Milk Board	1962	6,234	33	0·56	71	1·14	4	0·06	108	1·76
	1961	5,650	29	0·51	52	0·92	11	0·19	92	1·63
Total	1962	10,348	49	0·47	133	1·28	11	0·10	193	1·85
	1961	10,494	85	0·81	113	1·07	25	0·24	223	2·12

Food Inspection Branch—Annual Report, 1962

STAFF

Chief Food Inspector: Mr. W. J. Madgwick.

Deputy Chief Food Inspector: Mr. J. W. Wing.

Five Senior Food Inspectors; 13 Food Inspectors; 1 Clerk; 1 Attendant.

Note: (1) Of the five Senior Food Inspectors referred to above one is detailed for duty at each of the following Health Districts—North Coast, South Coast, North Westernt Western and Newcastle.

(2) The Report of the work of the Branch for 1962 does not include the work carried out in these Health Districts; this work is reported on separately by the Medical Officers of Health in their respective areas.

ACTIVITIES

The work of the Food Inspection Branch is primarily concerned with the supervision of the sale of food and drugs in regard to their composition, identity and labelling; the structure and condition of premises in which they are manufactured, prepared, stored and sold; the inspection of the equipment, appliances and vehicles used; the incidental duties associated with matters to secure the wholesomeness, cleanliness and freedom from contamination of food; and the implementation of the legal provisions required by the Pure Food Act, 1908, as amended.

Food Sampling

A total number of 9,335 samples comprising a wide variety of food and drugs were obtained and submitted for analysis by the Branch's Inspectors. Of these, 871 were found to be adulterated and successful legal proceedings were instituted in 657 cases resulting in the imposition of £6,502 19s. 0d. in Fines and Costs. A further 214 Departmental warning letters were sent to traders who were found to be selling adulterated food.

Detailing the above figures on food sampling during 1962, the following will be of interest. (See also Table I):—

(i) *Meat*—Number of samples analysed 5,863; number adulterated 739, or 12·6 per cent.; and 561 prosecutions were instituted.

(ii) *Milk*—During 1962, milk samples were found to be 3·6 per cent. adulterated compared with 4·4 per cent. in 1961.

(iii) *Bread*—Samples analysed totalled 158; and six prosecutions were instituted.

(iv) *Butter*—Samples analysed numbered 19; and one prosecution was instituted.

(v) *Cream*—Samples analysed totalled 77; and five prosecutions were instituted.

(vi) *Canned Fish*—Samples analysed amounted to 28; and one prosecution was instituted.

(vii) *Spirits*—Adulteration of spirits showed a decrease during the year, for while 3,944 bottles of spirits were analysed only 20 were found to be adulterated.

Bacteriological Examination of Foodstuffs

A total number of 164 foods were bacteriologically examined, including 55 samples of desiccated coconut; 49 samples of cake mixes; 14 samples of canned mushrooms; and 24 samples of oysters. No evidence was forthcoming to suggest that any of these foodstuffs were the cause of food poisoning. The oysters examined were part of a number of oyster samples taken from the George's River area to determine whether the oysters were polluted by the waters in the area and/or in handling procedures. This is part of a survey at present proceeding and evidence on either of these points has not been established.

Seizures

The quantity of food and drugs seized and destroyed as being unfit for human consumption comprised approximately 64 tons; 12,819 head of poultry; and 150,000 assorted tablets.

Premises

A comparative study of the total number of premises inspected in which food and drugs were prepared, stored and sold, and of those premises requiring remedial action in the way of structural repairs and other defects, show a percentage decrease over recent years.

Of 10,090 premises inspected, 364 notices were served on traders to remedy defects found in connection with their premises and 31 traders were convicted and fined a total of £746 for failure to keep their premises clean.

General Breaches

In this field of the Branch's work the greatest number of offenders were food traders who were found smoking whilst preparing or engaged in the serving of food and 101 persons were prosecuted for this offence and fines and costs totalled £766.

Foods exposed to dust and other forms of contamination resulted in the appearance of 60 traders before the Courts and the imposition of £461 10s. 0d. in fines and costs.

There were 16 prosecutions for fly and cockroach infestation in food premises resulting in £335 in fines and costs.

Other breaches where prosecutions were instigated were for unclean equipment; improper food wrapping; unnecessary food handling; unlabelled bottled oysters; and for obstructing Officers in the performance of their duties.

Complaints

The number of complaints received concerning unhygienic food and food handling indicates a public awareness of the service available to them in this regard. There were 985 such complaints investigated by Departmental Officers.

Legal Proceedings

The total number of prosecutions instituted by the Branch was 913, and Fines and Costs amounting to £9,336 9s. 0d. were imposed.

PUBLIC RELATIONS

The Chief Food Inspector re-commenced, after his absence overseas in 1961, his weekly participation in Radio 2GB's Session " I'm On Your Side " in which listeners and food traders problems were discussed.

The Chief Food Inspector also contributed four articles to Health and Food Industry Magazines and gave addresses on food matters to 26 Health, The Food Industry, and Service Organisations.

AMENDMENTS TO REGULATIONS

Amendments to Regulations were gazetted during the year in regard to the following matters:—

> Preservatives; Artificial Sweetening Substances; Edible Fats and Oils; Heavy Metals in prescribed Colouring Matters; Gelatine; Cocoa and Cocoa Products; Permitted Food Colours; Ice Cream Labelling and Advertising; and the distribution of Milk.

STAFF CONFERENCES

Decentralisation of Health Services has necessitated visits by the Chief Food Inspector to Health Districts and the holding of Staff Conferences of Senior Food Inspectors in Sydney, with the object of co-ordinating and achieving uniformity of policy and procedure in food inspection.

Three of the five Health Districts were visited in this regard and one such Staff Conference was held in Sydney.

COMMENT

As a matter of interest details of the work performed under the Pure Food Act, 1908, as amended, from the date of the operation of the Act in 1909 to 31st December, 1962, are shown in Table III.

TABLE I—SUMMARY OF WORK PERFORMED FOR THE YEAR ENDING 31ST DECEMBER, 1962

Milk

Number of samples taken	2,478
Number below standard	81
Number of warnings	24
Number of Prosecutions	57
Amount of Fines and Costs	£372

Food and Drugs other than Milk

Number of samples taken	6,857
Number below standard	791
Number of warnings	190
Number of Prosecutions	600
Amount of Fines and Costs	£6,130 19s. 0d.

Food and Drugs Unfit for Human Consumption, Seized and Destroyed

The seizures and destructions comprised approximately 64 tons of food and drugs, 12,819 head of poultry and 150,000 tablets.

Inspections of Premises used for the Preparation, Sale and Storage of Food and Drugs

Number of inspections	10,090
Number of warning notices	364
Number of Prosecutions for unclean premises	31
Amount of Fines and Costs	£746

Particulars of General Breaches of the Pure Food Act and Regulations

Number of Prosecutions	222
Amount of Fines and Costs	£2,039 10s. 0d.

Action taken under Other Acts. Local Government Act—Ordinance 39

Number of Prosecutions	3
Amount of Fines and Costs	£48

TABLE II—SUMMARY OF LEGAL PROCEEDINGS, 1962

	Number of Prosecutions	Amount of Fines and Costs		
Offences under the Pure Food Act and Regulations—		£	s.	d.
Adulterated Milk	57	372	0	0
Adulterated Foods and Drugs	600	6,130	19	0
Unclean Premises	31	746	0	0
General Breaches	222	2,039	10	0
Other Acts—				
Local Government Act	3	48	0	0
Grand Totals	913	9,336	9	0

Table III—Summary of Work Carried out by Pure Food Branch under the Pure Food Act, 1908, as Amended, from the Date of its Operation, October, 1909, to 31st December, 1962

	No. of Premises Inspected	Total No. Samples Taken	Total below Standard	Prosecutions	Amount of Fines and Costs		
					£	s.	d.
Premises inspected	492,383	....	....	3,220	23,445	7	0
Breaches of Act and Regulations	....	....	....	5,691	29,364	19	6
Milk Samples	....	397,565	13,405	8,770	45,690	8	0
Food and Drug Samples	....	263,120	22,057	16,121	83,069	1	10
Food and Drug Seizures	....	....	....	435	2,044	11	0
Totals	492,383	660,685	35,462	34,237	183,614	7	4

HEALTH INSPECTION BRANCH ANNUAL REPORT, 1962

STAFF

(As at 31st December, 1962)

*Chief Health Inspector: Mr. K. R. Horne, F.I.H.S. (Aust.).

Acting Chief Health Inspector: Mr. D. H. Way, F.I.H.S. (Aust.).

Acting Deputy Chief Health Inspector: Mr. H. K. Evans.

Eight Health Inspectors; two Cadet Health Inspectors; two Surveyors; one Tracer (Female); two Junior Clerks; one Records Attendant.

The Branch was thus two Health Inspectors and one Cadet Health Inspector below establishment.

* Mr Horne detached for Special Duty, as from 10th December, 1962

DECENTRALISATION

On 11th June, 1962, decentralisation caused a change whereby the Chief Health Inspector became responsible to the Metropolitan Medical Officer of Health for health inspection work carried out in the Metropolitan District. The Officers formerly detached for duty with the Metropolitan Medical Officer of Health were then returned to the Branch for general duty.

Pending the establishment of the proposed Riverina Health District, the work in this District has been carried out by Health Inspectors under the jurisdiction of the Chief Health Inspector. Broken Hill Health District is still also an area not affected by decentralisation.

FUNCTIONS AND RESPONSIBILITIES

The Officers of this Branch are authorised to carry out the duties and to make inspections and report on matters arising out of the administration of the Public Health Act, 1902, as amended, Noxious Trades Act, 1902, as amended, Local Government Act, 1919, as amended.

The Survey Section of the Branch functions under Sections 54 and 55 of the Public Health Act, 1902, as amended, and deals with land considered to be unsuitable for building purposes throughout the State. An area of unhealthy building land at Sutherland was reviewed owing to a change of land usage subsequent to the original proclamation. This involved the complete re-survey of the area by Branch Surveyors in consultation with Council's Officers in order to arrive at a workable scheme whereby land, originally subdivided for farm lots, could be treated to provide adequate drainage for new industrial and residential purposes. After complete re-survey and several conferences a new scheme was prepared for notification as soon as practicable.

In the period under review, 13 new areas were notified as unhealthy building land and, the necessary work having been completed satisfactorily, the notifications affecting 13 old areas were revoked.

The number of inquiries from Solicitors as to whether land was affected by Section 55 of the Public Health Act showed an increase over the previous year. The figures were 56,700 in 1961 and 65,957 in 1962. The revenue produced from this source was £16,489 5s. 0d.

ROUTINE WORK CARRIED OUT

In the year under review, the following work was carried out:—

Sanitary surveys of Local Government Areas		6
Shops and buildings inspected		306
Hospitals, Institutions, Schools		67
Hotels, Public Halls and Theatres		101
Slaughtering Premises		93
Flock and Bedding—(*a*) Inspection of premises		90
(*b*) Samples collected		53
Camping Areas, Showgrounds and Cemeteries		13
Saleyards		13
Septic Tank Applications dealt with (including Metropolitan Health District)—		
Approval	7,214	
Refusal	654	
		7,868
Testing of bores for effluent disposal		22
Septic tank site inspections		9,382
Septic tank installations inspected		477
Septic tank manufacturers design plans examined		49
Sewage treatment works inspected		17
Sanitary Depots—proposed sites		27
Sanitary Depots—existing		212
Nuisance investigations		669
Infectious disease investigations		23
Specimens of faeces, etc., collected		399
Samples: Water		281
Sewage effluent, trade waste and other material		143
Noxious Trades premises inspections		844
Interviews with architects and others re drainage problems, etc.		272
River and beach pollution inspections		69
Prosecutions		31
Fines		£367
Costs		£32
Branch Records (new registrations)		10,495

INTERESTING DEVELOPMENTS

Two Councils in the Riverina District decided to finance the installation of septic tanks in towns and villages in their areas with the object of eliminating pan and cesspit closets. At the request of these Councils, the towns and villages were visited by Health Inspectors of the Branch and advice furnished on the practicability of the proposed schemes.

The use of sand filters for the treatment of effluent to be discharged into bores was found to have certain disabilities due to rapid clogging. Consideration was given to the use of filters which could be backwashed when clogging occurred and it is likely that future borehole installations will incorporate this type of filter. Wastes washed from such filters will be discharged into the inlet of the septic tank.

The Chief Health Inspector was a member of a Committee formed to consider the revision of the Public Health Act and its Regulations. In December, 1962, he was detached from other duties to concentrate full-time on problems associated with the drafting of such legislation and incorporating suggested amendments after discussion by the Committee.

CONFERENCES OF SENIOR HEALTH INSPECTORS

Two conferences of Senior Health Inspectors were held at Head Office under the Chairmanship of the Chief Health Inspector. The various Health Districts were represented and topics included covered, disposal of abattoir drainage; stream pollution; inspection of institutions; Closing Orders; disposal of diseased meat; slaughtering of pigs; fluoridation of public water supplies; and water sampling procedures.

DIFFICULTIES EXPERIENCED

Despite increased commitments regarding the inspection of Institutions and stream pollution investigations, the staff position further deteriorated, there being two Health Inspectors and one Cadet Health Inspector below establishment. The consequent shortage of experienced staff will undoubtedly react adversely on the work of the Branch in the coming years.

Private Hospitals and Rest Homes Branch—Annual Report, 1962

STAFF

Medical Officer: Dr. R. Y. Dunlop, M.D., Bch., D.P.H., D.T.M. & H.

Three Supervisory Nursing Sisters.

One Office Assistant.

ACTIVITIES

The Officers of the Branch are responsible for the inspection of all licensed Private Hospitals and Rest Homes, covering the general conduct, the management and the care of the patients in these premises. The condition of premises, equipment, records, living conditions of the nursing staff, adequacy of staff and the general compliance with all necessary requirements covered by the Private Hospitals Act, 1908, as amended, are the main activities of the Supervisory Staff. Additionally the staff scrutinize plans and specifications of premises while numerous inspections in connection with proposed new buildings, or alterations or extensions of existing buildings used or intended to be used as Private Hospitals or Rest Homes are made. Checking on registration, with the Nurses Registration Board, of the nursing staff employed on all premises is carried out with each newly appointed Resident Manager. Complaints in regard to Private Hospitals and Rest Homes are investigated covering such matters as lack of care and attention to patients, inadequate or unwholesome food and inadequate sanitary facilities.

The Supervisory Nursing Sisters carried out the following work in the above connection during 1962:—

Routine inspections of Private Hospitals	283
Routine inspections of Rest Homes	466
Initial inspections of Private Hospitals and Rest Homes	58
Final inspections of Private Hospitals and Rest Homes	30
Special Visits	84
Complaints investigated	26

During the year 552 minutes were prepared for approval of the Board of Health, comprising: 25 transfers of licenses; 162 plans; 79 amendments to licenses; 250 Resident Manager changes; and 36 new licenses.

During 1962, the Medical Officer accompanied the Supervisory Nurses of the Branch when he visited approximately 90 premises. These visits have had a salutary effect in causing licensees to bring their premises up to a desired standard and it has been most gratifying to see the many improvements effected by these visits in 1962.

During the year, once again, there has been a steady increase in the number of Private Hospitals and Rest Homes. Many premises have been enlarged, from the 6-10 uneconomic bed-group, to the more economic 15-20 bed-group or larger.

From the tables below it will be observed that during 1962, the number of Private Hospitals in the State increased by two; both in the Metropolitan area. Including the two new premises and with additions to premises already in existence, 164 beds (106 metropolitan and 58 country) and 40 cots (37 metropolitan and 3 country) were added to the beds and cots now available, making the total 4,295 beds and 231 cots.

It will also be observed from the Tables that the number of Rest Homes increased by 16 (11 metropolitan and 5 country). Including these 16 new premises and with additions to premises already in existence, 719 beds (581 metropolitan and 138 country) were added to the beds now available, making the total number of beds 6,399. The number of cots available remained the same as in 1961, *i.e.*, 58, all in the Metropolitan area.

The increase in Rest Home beds over the past two years—1961-1962, has been somewhat remarkable for in two years an increase of 1,210 beds has been made, making the increase approximately 25 per cent. over the 1960 total of 5,170.

In 1962, a points scheme was adopted in an attempt to assess the general state of Private Hospitals and Rest Homes in the Metropolitan area. The points scheme was based on ten points given in each of the following categories: quality and quantity of food; cleanliness; adequacy of staff; equipment, state of premises; keeping of register of patients; overcrowding; complaints laid; attitude of licensee to notices served; general attitude of licensee to patients.

The ratings were then worked out as under:—

85 points and over	three stars
65-84 points	two stars
50-64 points	one star
49 points and under	nil

At the end of the year a survey of metropolitan premises showed the following:—

TABLE I—POINT SCHEME FOR PRIVATE HOSPITALS AND REST HOMES—1962

Rating	Private Hospitals	Rest Homes
Three stars	91	116
Two stars	46	99
One star	17	37
Nil	..	..

The number of Private Hospitals that improved during the year from " one star " to " two stars " was four.

The number of Private Hospitals that improved during the year from " two stars " to " three stars " was eight.

The number of Rest Homes that improved during the year from " one star " to " two stars " was sixteen.

The number of Rest Homes that improved during the year from " two stars " to " three stars " was eighteen.

During 1962, five Inquiries into Private Hospitals and Rest Homes, at the direction of the Minister for Health, were conducted by the Medical Officer, and in every instance remedial improvements took place in each of the premises.

Twelve Private Hospitals and Rest Homes closed during 1962, because the Licensee was unwilling to comply with the Board's requests or closed because of extensive alterations and improvements which were requested by the Board of Health.

TABLE I—NEW SOUTH WALES PRIVATE HOSPITALS: NUMBER OF HOSPITALS—1962

Year	District	Hospitals									
		M.S. & L.	M. & S.	L.	M. & P.-O.	M.	P.	M. & L.	M. P.-O. & L.	M. S. & P-O.	Total
1961	Sydney	20	38	2	79	3	2	1	1	1	147
	Country	18	9	7	12	3	1	4	5	2	61
	Total—N.S.W.	38	47	9	91	6	3	5	6	3	208
1962	Sydney	19	35	2	84	4	2	1	1	1	149
	Country	17	9	7	14	3	1	4	4	2	61
	Total—N.S.W.	36	44	9	98	7	3	5	5	3	210

M.S. & L. = Medical, Surgical and Lying-in.
M. & S. = Medical and Surgical.
L. = Lying-in.
M. & P.-O. = Medical and Post-operative.
M. = Medical.
P. = Psychiatric.
M. & L. = Medical and Lying-in.
M. P.-O. & L. = Medical, Post-operative and Lying-in.
M.S. & P.-O. = Medical, Surgical and Post-operative.

TABLE II—SHOWING CLASSIFICATION OF PRIVATE HOSPITALS LICENSED AT 31ST DECEMBER, 1962, WITH RESPECT TO SIZE, AS SIGNIFIED BY NUMBER OF BEDS AVAILABLE

Year	District	Beds							
		1	2	3	4-5	6-10	11-20	Over 20	Total
1961	Sydney and Districts	1	1	..	5	18	62	60	147
	Country Districts	7	2	1	7	17	17	10	61
	Totals	8	3	1	12	35	79	70	208
1962	Sydney and Districts	1	1	..	3	18	58	68	149
	Country Districts	6	2	1	5	21	19	7	61
	Totals	7	3	1	8	39	77	75	210

Table III—New South Wales—Private Hospitals: Number of Beds—1962

Year	District	M.S. & L.	M. & S.	L.	M. & P.-O.	M.	P.	M. & L.	M.P.-O. & L.	M.S. & P.-O.	Total
1961	Sydney	671 + 8 cots	1,048 +22 cots	16	1,614 +64 cots	100 + 2 cots	45	12	5	....	3,511 +96 cots
	Country	141 + 17 cots	136 + 12 cots	48	151 + 25 cots	57 + 23 cots	+ 18 cots	22	34	31	620 + 95 cots
	Total—N.S.W. ..	812 + 25 cots	1,184 + 34 cots	64	1,765 + 89 cots	157 + 25 cots	45 + 18 cots	34	39	31	4,131 + 191 cots
1962	Sydney	674 + 19 cots	1,028 + 22 cots	16	1,745 + 90 cots	78 + 2 cots	59	12	5	....	3,617 + 96 cots
	Country	139 + 17 cots	171 + 12 cots	53	165 + 28 cots	62 + 23 cots	+ 18 cots	22	30	36	678 + 98 cots
	Total—N.S.W. ..	813 + 36 cots	1,199 + 34 cots	69	1,910 + 118 cots	140 + 25 cots	59 + 18 cots	34	35	36	4,295 + 231 cots

Table IV—Showing Classification of Rest Homes Licensed at December 31st, 1962, with respect to Size, as Signified by Number of Beds Available

Year	District	Beds							
		1	2	3	4-5	6-10	11-20	Over 20	Total
1961 ..	Sydney and Districts ..	..	..	..	6	44	98	82	230
	Country Districts ..	..	..	..	1	4	13	6	24
	Totals ..	..	..	..	7	48	111	88	254
1961	Interim licenses								
	Sydney and Districts ..	..	..	..	2	2	2	..	6
	Country Districts ..	..	..	..	..	1	1	..	2
	Totals ..	..	..	..	2	3	3	..	8
1962 ..	Sydney and Districts ..	..	..	..	5	39	105	93	242
	Country Districts ..	..	..	..	1	4	16	10	31
	Totals ..	..	..	..	6	43	121	103	273
1962 ..	Interim licenses								
	Sydney and Districts ..	..	..	..	1	1	3	..	5
	Country Districts ..	..	..	..	..	..	..	..	..
	Totals ..	..	..	..	1	1	3	..	5

Table V—New South Wales—Rest Homes: Number of Rest Homes and Beds—1962

Year	District	Rest Homes				Number of Beds			
		General	After-care	Psychiatric	Total	General	After-care	Psychiatric	Total
1961 ..	Sydney	226	1	3	230	5,059 + 32 cots	26 cots	27	5,086 + 58 cots
	Country	24	..	..	24	517	..	..	517
	Total—N.S.W.	250	1	3	254	5 576 + 32 cots	26 cots	27	5,603 + 58 cots
1961 ..	Interim licenses								
	Sydney	6	..	..	6	56	..	..	56
	Country	2	..	..	2	21	..	..	21
	Total—N.S.W.	8	..	..	8	77	..	..	77
1962 ..	Sydney	239	..	3	242	5,607 + 32 cots	..	59	5,666 + 58 cots
	Country	29	..	..	29	676	..	..	676
	Total—N.S.W.	268	..	3	271	6,283 + 32 cots	..	59	6,342 + 58 cots
1962 ..	Interim licenses								
	Sydney	5	..	..	5	57	..	..	57
	Country	..	..	..	..	....	..	..	..
	Total—N.S.W.	5	..	..	5	57	..	..	57

Division of Forensic Medicine—Annual Report, 1962

STAFF

Director, Division of Forensic Medicine and Government Medical Officer: Dr. JOHN LAING, M.B., B.S.

Medical and Medico-Legal Section: Five Medical Officers.

Medico-Legal Laboratory: One Medical Officer, One Microbiologist, One Laboratory Assistant-in-training, One Office Assistant.

Hospital Admission Depot: The Officer-in-Charge, The Assistant Officer, The Night Officer, The Relieving Night Officer, Escort Attendants (from Lidcombe State Hospital).

ACTIVITIES

Admissions to Hospitals and Homes

During the year the following admissions were arranged:—

Metropolitan Hospitals	1,788
State Hospitals and Homes and Chronic Hospitals	3,585
Convalescent Homes	716

These figures show that there was a somewhat lessened demand for the admission of both acute and chronic cases this year.

Medical Examinations

Two thousand, eight hundred and eighty-four examinations were performed for the Police Department and 3,121 for various other Government Departments. There was an increase in both groups. In the case of the Police Department this was due to an increase in the authorised strength of the Police Force.

Supervision of the health of the Police Force was maintained at the daily sick parade at Police Headquarters. The average daily number of Police on sick report was 154, the strength of the Metropolitan District being 3,939.

Medico-Legal Work

The total number of bodies examined for the City Coroner was 2,210. This figure approximates that of the previous year as there were no accidents in the Metropolitan Area causing multiple fatalities in 1962 comparable with the 15 deaths in the Viscount aircraft crash of November, 1961.

One hundred and seventy-eight examinations of criminal assault cases were performed, an increase of 38 cases over the 1961 total. The medical staff is required to give evidence in various courts in connection with this work.

Other Medical Services

Three thousand six hundred and thirty-three vaccinations against smallpox were performed and 6,643 International Certificates were issued for these and for vaccinations done by private medical practitioners.

In previous years vaccination was a free service but on 1st November, 1962, a charge of ten shillings per person vaccinated was instituted.

Three hundred and eighty-one throat swabbings were taken from children about to be admitted to various institutions. A comparison of the above activities for the years 1961 and 1962, with further details is presented in Table I.

Medico-Legal Laboratory

In July, 1962, the Medico-Legal Laboratory moved from its former premises at 93 Macquarie Street, to its present quarters situated over the City Coroners Court at 102 George Street, and is now able to work in close co-operation with the medical officers in the City Morgue, a state of affairs that has proved most helpful and satisfactory.

The laboratory continues to provide pathological and biological services to assist in the investigation of crimes and in the determination of causes of death in cases for various Coroners. The work includes histopathology, the grouping of blood and secretions, the investigation of blood stains and seminal stains and the examination of hairs and fibres. These services are available for both metropolitan and country cases.

A detailed analysis of the specimens submitted and the number of examinations performed is given in Table II.

This shows a marked increase, particularly in histopathological examinations partly due to the closer integration of the Medico-Legal laboratory with the City Morgue but mainly due to the increasing demand by organisations, such as Teaching Hospitals, and committees with special interests, for more histopathological detail than has been available in the past.

SPECIAL FEATURES OF THE YEAR'S ACTIVITIES

On 9th July, 1962, the erstwhile Director of the Division of Forensic Medicine, Dr. C. E. Percy, retired, being succeeded by the present Director, Dr. John Laing.

On 3rd July, 1962, as indicated above, the Medico-Legal laboratory moved into its new location, which also houses the City Morgue and the City Coroners Court thus doing much to rectify the previously scattered nature of the Division. At the same time extra accommodation was provided in the City Morgue by subdividing a store room into two additional offices making a total of three in all, thus making it possible to consider the revision of the Morgue system and the provision of, for the first time, clerical assistance, plans which had hitherto been blocked by a lack of suitable accommodation.

With these intentions in mind, the Director visited the Brisbane City Morgue during October, 1962, and discussed many matters in common with the medical staff there.

Following this visit, various aspects of clerical methods in use at the City Morgue are being reviewed. Changes in the types of forms, in filing and the introduction of tape recorders and copying machines are being considered and, it is believed, a streamlined system is evolving. The aim of the change is to reduce the clerical work of the medical officers to a minimum so that more time can be devoted to professional activities, and to provide as a routine service, copies of autopsy findings for Hospitals and medical practitioners. The growing demand for this service has been difficult to meet under the previous system.

During the year, the Department of Civil Aviation completed its negotiations with the Governments of each State in the Commonwealth to place aircraft accident autopsies on a basis comparable with overseas standards. As a result, the Division of Forensic Medicine has undertaken to perform autopsies on all aircraft deaths anywhere in the State of New South Wales. During August, 1962, the Director of this Division attended an Aviation Pathology Conference in Melbourne, held under the auspices of the Department of Civil Aviation at which medico-legal representatives from various States discussed and agreed upon standardisation of autopsy procedures and investigations.

During this year, the role and establishment of the Division have been re-examined and it seems likely that much, if not all, of the non-forensic activities, such as medical examinations, hospital admissions, vaccinations, and the like will be transferred to other organisations in the near future.

The activities of the year have been conducted in an atmosphere of change and re-organisation which has been both challenging and stimulating. The constant aim is to adhere more closely to our true function—the development of an efficient forensic medical service.

TABLE I—SHOWING ACTIVITIES FOR THE YEARS 1961 AND 1962

	Year ending 31st December, 1961	Year ending 31st December, 1962
Admissions to Hospitals and Homes—		
Metropolitan Hospitals	2,002	1,788
State Hospitals and Homes, Chronic Hospitals	4,128	3,585
Convalescent Homes	726	716
Medical Examinations for various Government Departments	3,109	3,121
Medical Examinations for the Police Department—		
Police Recruits—First Examinations	1,654	1,438
Police Recruits—Re-examinations	722	782
Probationary Constables—Confirmation of Appointment	310	384
Periodic examination of cadets	245	252
Shallow Water Divers—Annual Fitness Examinations	....	28
Daily average of Police on sick report	118	154
Examinations for the City Coroner (including week-ends)	2,238	2,210
Examinations of Criminal Assault Cases	144	178
Vaccinations and International Certificates—		
Vaccinations (Smallpox)	4,036	3,633
International Certificates	5,296	6,643
Throat Swabbings	225	381

Table II—Activities of the Medico-Legal Laboratory to 31st December, 1962

Number of Specimens Submitted						Number of Tests Performed					
	Police	Morgue	Analyst	Misc.	Total		Police	Morgue	Analyst	Misc.	Total
Whole blood for grouping . .	44	24	. .	4	72	Whole blood for grouping . .	174	92	. .	14	280
Garments, weapons etc. for grouping of blood stains and determination of origin of blood	279	4	. .	. .	283	Garments, weapons etc. for grouping of blood stains and determination of origin of blood	675	6	. .	. .	681
Vaginal smears for spermatozoa	40	64	. .	. .	104	Vaginal smears for spermatoza	42	66	. .	. .	108
Garments, etc. for the detection of seminal stains . .	352	6	. .	5	363	Garments, etc. for the detection of seminal stains	509	6	. .	4	519
Specimens of hair . .	101	33	2	. .	136	Specimens of hair . .	867	147	16	. .	1,030
Post mortem tissues for histopathological examination	240	1,741	91	3	2,075	Post mortem tissues for histopathological examination	362	2,555	123	7	3,047
	1,056	1,872	93	12	3,033		2,629	2,872	139	25	5,665

Publicity Branch—Annual Report, 1962

STAFF

Publicity Officer: Mr. G. A. Keep.

One Assistant Publicity Officer, one Clerk; one Office Assistant; one projectionist.

ACTIVITIES

The functions of the Branch are to promote health education and public relations programmes, using all possible means of advertising media.

In general, because of the wide range of material to be distributed and the large scattered population, most of these programmes are presented by using the indirect method, *i.e.*, the press, radio, television, films, posters, pamphlets and exhibitions.

The Branch's film library was used extensively by schools, Teachers Colleges and teaching hospitals, whilst much of the material issued such as posters, and pamphlets, was distributed to these locations for teaching purposes. A heavy demand is placed upon the Branch by Councils for all types of publicity material.

Local Authorities and schools received the main bulk of the following supplies which emanated from this Branch during 1962:—

Posters	25,385
Pamphlets	791,772
Booklets	125,140

A large quantity of booklets and leaflets were also sent direct to Schools and Baby Health Centres by printers, including 32,646 *Our Babies* and 33,305 *Healthy Motherhood* booklets.

Medical Record Cards, Polio (Adult) cards and Polio (children) cards distribution figures amounted to 108,906, 373,910 and 131,886 respectively.

One hundred 16 mm. film screenings were carried out by the Branch to a total audience of 6,722. Film Loans (16 mm.) totalled 2,032. These were screened to an audience of 43,204. During Health Week and for Tuberculosis Survey publicity 54 films (35 mm.) were screened to 28,010 persons.

Other details of the Branch's work during 1962 included:—

(*a*) *Press:* Tuberculosis surveys and a Poliomyelitis Campaign accounted for most of the paid advertising used this year. All metropolitan, suburban and country papers were supplied with two press articles weekly, and every opportunity was taken to provide the press with articles of a topical nature.

(*b*) *Radio:* Paid announcements over commercial radio stations were used in connection with chest X-ray surveys in country areas and the poliomyelitis campaign in the metropolitan and country areas. Two articles per week were sent to all radio stations for broadcasting and Departmental staff frequently made broadcasts on general health subjects. During the year a weekly broadcasting series was arranged with a Sydney radio station, and this has now become a regular feature.

(*c*) *Television:* Departmental Officers made nine television appearances during the year. This medium is considered the most effective one for publicity purposes. It was used in 1962 for the first time to publicise chest X-ray surveys and the resultant figures from the areas covered proved its value for such a purpose. Opportunities to appear on ABN Television and commercial channels without cost are limited but such opportunities are fully utilised as they occur.

Health Week

The National Health Week slogan for 1962, was " Healthy Hearts Beat Longer " and the Department co-operated with the National Heart Foundation in this matter. Although emphasis was placed on the prevention of heart trouble, the need for continued observance of personal and communal hygiene was stressed throughout all schools in New South Wales. Two essay competitions were held in which primary and secondary school children were invited to compete. Health and educational material, notes for radio talks and newspaper articles were also distributed.

The Branch again arranged an exhibit at the Health Week Exhibition in the Sydney Town Hall.

Voluntary Organisations

The Branch works as closely as possible with the many voluntary organisations operating in the field of public health and endeavours to assist these groups by personal liaison, film screenings, supply of health education material and expert advice.

During the year the Branch co-operated with these groups on a wide variety of projects, including mental health and tuberculosis.

Poliomyelitis Campaign

A Poliomyelitis Vaccination Publicity Campaign commenced on 8th October, 1962, for a period of one month. A mass distribution of some 300,000 leaflets and posters was made throughout the State together with some 200,000 polio consent cards. Local Health Authorities co-operated admirably in the campaign. Extensive use was made of the radio and press.

Departmental Journal

The quarterly Journal of the Department continues to be extremely popular and the circulation has been increased to 13,000 per quarter.

Production of Films

During the year two films were produced for the Department. One " The Happy Years ", covers the work of the School Medical Service with emphasis on its special Clinics and Child Health Centres.

The second film " Gates Without Walls ", which was produced at the North Ryde Psychiatric Centre, demonstrates the value of recreational therapy in the treatment of mental illness.

Commencement was made during the year on the production of a film on Tuberculosis—" Battle Against a Bacillus ".

PREVENTIVE MEDICINE

Division of Maternal and Baby Welfare—Annual Report, 1962

STAFF

Director: Dr. GRACE J. BROWNE, M.B.E., M.B., Ch.M., F.R.C.O.G.

Deputy Director: Dr. MAUREEN GRATTAN-SMITH, M.B., B.S., D.P.H.

Establishment: One Senior Medical Officer; five Medical Officers; three Nurse Inspectors; seven Clerical Staff. At the Baby Health Centres there were employed 227 full-time Sisters; 24 part-time Sisters; six Sisters-in-training under bond.

GENERAL

Two major factors have been influencing the progress and activities of the Division over the past few years and this was most apparent in 1962. These factors were firstly, the increase in population and concurrent marked rise in the number of live births and secondly, the changing emphasis in the pattern of the needs of the mother and her children. Whereas, for many years, the Division's activities, in the main were directed to the physical needs of the baby and the baby's growth and development, more and more stress, to-day, is being placed on the emotional needs of both the mother and her child, and the necessity for consideration of the family unit as a whole and the unit's relationship to the whole community.

During 1962, considerable expansion of the services provided by the Division has taken place. Over the last two years there has been an average increase of approximately 4,000 births per annum and while this has thrown a heavy load on Obstetric Hospitals facilities, it has also caused a great increase in desirable Pre-natal and mothercraft services provided by the Division. There were 85,439 live births in 1962, and to meet the increased demand 12 new Baby Health Centres were opened while Pre-natal clinics increased from 11 to 15; three of these Pre-natal clinics are situated in the City of Greater Newcastle. Additionally, proportionate increases in staff, had also to be made. The Obstetric and Childrens' Hospitals of this State have co-operated fully with the Division, providing services to mothers and their children which are necessary to maintain a high standard of positive health.

In conjunction with the Mental Health Association of New South Wales, efforts have been made to provide health education to mothers emphasising normal growth and development of the child and this has taken the form of Mother Discussion Groups. Difficulties have been experienced, but it is anticipated that this form of education will expand as trained Group leaders become available.

The Divisional booklets have been revised and a new edition of *Obstetrics in New South Wales* has been published. The basic booklet for mothers on the care of children, *Our Babies*, was completely re-written in 1962, with emphasis on the mother-child relationship and the importance of the family and the family's attitude to the young child's health. This new edition should be available early in 1963.

At all times, the Division has received full co-operation from other Agencies concerned with the care of the mother and her child. These Agencies include State Departments; Hospitals; Local Government Authorities; Country Women's Associations; The Red Cross Blood Transfusion Service; The Mental Health Association of New South Wales; The Kindergarten Union of New South Wales (Inc.); and The Sydney Day Nursery and Nursery Schools Association (Inc.). It is planned, in 1963, to endeavour to co-ordinate more fully the work of these Organisations and the persons concerned with Maternal and Child Health, so that eventually each will be brought into proper cohesive relationship with the Division.

MATERNAL WELFARE

Pregnancy is a normal physiological process in a healthy woman and complications, which may arise as pregnancy advances, are mainly preventible. This is the reason why the care of the expectant mother has become a major feature in Public Health practice for the mother's life and the survival of the baby may both be at stake.

The loss of a mother's life in pregnancy or child-birth is always a tragedy and great stress has been placed on maternal deaths in the last three decades and it is gratifying to record that in 1962, the number of maternal deaths was the lowest yet recorded in the State. There were 29 maternal deaths for 85,439 live births and when these figures are related to the mean population, the maternal death rate was 0·34 compared with 0·50 in 1961. A comparison of maternal death rates over the last 30 years (see Table 6) shows a great achievement in the saving of lives of mothers. For 44,676 live births in 1935, 282 mothers lost their lives, whereas in 1962, although the number of live births had practically doubled, only 29 women died in child-birth.

Many factors, no doubt, have influenced this dramatic fall of which antenatal care, improved obstetrics and the education of the mother herself are probably the most vital. In New South Wales to-day, pre-eclamptic toxaemia and delivery complicated by haemorrhage are still the two single causes of death with the highest incidence. It is generally accepted that to eliminate the death rate in these two groups, meticulous antenatal care (including in-patient antenatal care) is the over-riding consideration.

Special Medical Committee Investigating Maternal Mortality

Eleven meetings of the above Committee were held during the year. Forty-three deaths associated with pregnancy and child-birth occurred in New South Wales during 1962, and of these fourteen were classified as non-maternal. The case history of each death was assessed from the point of view of preventibility and also studied by the Committee to assess the obstetric care and facilities available and whether the general practitioner or practising consultant could be assisted with additional services in or out of Hospital. The latest information, as to the availability of the services provided, is sent to every medical practitioner in New South Wales.

A special Sub-Committee was appointed to prepare material on deaths of mothers from haemorrhage in child-birth for the years 1957 to 1960. This information was subsequently submitted to the full Committee which resulted in a report being written which was published in the Medical Journal of Australia in March, 1962. Reprints of this report have been circularised to all medical practitioners in the State. The Committee in publishing material concerning maternal deaths from haemorrhage, had, as one of its chief objectives, the prevention of the chief factors found to be contributory to these deaths. The factors most deplored by the Committee were, failure to use available facilities when a haemorrhage had occurred and failure to make essential pathological examinations of the expectant mother. Criticism of the conduct of labour was secondary to the Committee's attempt to highlight these simple primary avoidable factors. Free haemotological examinations have been available for many years to all country mothers and all country hospitals hold suitable material for despatch of specimens.

The Special Medical Committee Investigating Maternal Mortality also published an article in the Medical Journal of Australia, 24th November, 1962, regarding deaths under anaesthesia in obstetric practice which occurred during 1957-1960. This report was published in conjunction with the Special Committee Investigating Deaths under Anaesthesia and referred to the preventible deaths of twenty mothers during these four years. The Committee's chief objective in the publication of this article was to make clear, to all concerned, that the administration of an anaesthetic during pregnancy and child-birth, could be a challenge to even the most skillful anaesthetist. The preparation of the patient and the choice of anaesthetic are two of the factors which, if regarded lightly, can cause the death of a mother.

Material concerning deaths resulting from complicated deliveries was studied in 1962, and a Report will be published in 1963. A similar Report is being prepared on deaths from eclampsia and pre-eclamptic toxaemia.

The time and effort given by members of this Sub-Committee is appreciated and the present low maternal death rate is no doubt due in part to the work of the members of this Committee.

Free Consultant Service during Pregnancy and Delivery

The need for consultation in complicated pregnancies and in child-birth is obvious to all. With the rapid growth of modern methods, it is quite impossible for practising physicians to handle all the cases coming under their care and the help of a consultant in difficult cases is an accepted routine in modern obstetric practice.

In order to provide this service to a mother who cannot afford the additional fee, a Free Consultant Service has been available for many years. This Service permits a general practitioner, with a complicated case, to seek specialist help and the costs involved including consultation fees, and fares, are met by the Department of Public Health.

Apart from the maternal complications and possible death, the salvaging of foetal life, *i.e.*, the prevention of still births and neonatal deaths is also a consideration, and very often a specialist's advice, at the right moment, will result in a healthy mother and a healthy baby, which might have otherwise resulted in a single or double tragedy.

This service has largely been used by country practitioners for whom it offers the possibility of expert advice even though the distances from the major centres may be many hundreds of miles.

In 1962, there were fourteen Free Consultations arranged; one in the Metropolitan area; seven in the area surrounding Wollongong; and others in Cowra, Wellington, Cooma, Taree and Tamworth.

Services to Mothers and Babies suffering from Rh Incompatibility

The most important factors in saving the lives of babies with Rh negative mothers is the recognition of Rh incompatibility; the need for a correct decision regarding treatment; and the speed of implementation of this treatment either prior to the birth or immediately after the birth of the child. With this in mind, a special service was established whereby the Department of Public Health pays the cost of transporting the mother before childbirth, or the baby and an attendant immediately after birth, to the closest large Centre where exchange transfusions can be done.

The incidence of Rh incompatibility is not high in the State and as the babies concerned in the scheme are born in country districts, there are not many calls to provide funds for the transport of these children. The service was established late in 1961 and during 1962, nine babies were brought to Sydney from the following centres: Narrandera, Cooma, Curlwaa, Dubbo, Kempsey, Cobar, Armidale and two from Taree.

Mobile Blood Transfusion Services

In co-operation with the Red Cross Blood Transfusion Service, five Metropolitan Obstetric Hospitals and the Royal Newcastle Hospital, a mobile service is on call at any time, day or night. This service is available in the Metropolitan area of Sydney and within 100 miles of the Royal Newcastle Hospital. In the booklet " Obstetric Practices in New South Wales ", which is distributed to all Medical Practitioners, information concerning contact with these Units is set out. During the year the Units were called on three occasions in the Metropolitan area of Sydney.

The Special Medical Committee Investigating Maternal Mortality has been concerned with the extension of Regional Blood Banks in New South Wales and has made representations through the Department to the Hospitals Commission and conferred with the Red Cross Blood Transfusion Service. There were eleven Regional Blood Banks in New South Wales in 1962 and it is anticipated that additional banks will be opened in 1963.

Blood donor panels have been established in all towns where there is an Obstetric Unit. Information concerning the method of obtaining assistance from these Centres is set out in the Departmental booklet referred to above.

The co-operation of the Women's Hospital, Crown Street; The Royal Hospital for Women; King George V Hospital; Royal North Shore Hospital; St. George's Hospital and the Royal Newcastle Hospital has been greatly appreciated and has made this service to mother and child possible.

INFANT MORTALITY AND PERINATAL MORTALITY SURVEYS

A report with recommendations on the Survey of all Infant deaths registered in New South Wales in 1958, was presented to the Director General of Public Health early in 1962.

Members of the Advisory Committee constituted to study these deaths were Dr. Lindsay Dey, Dr. T. Y. Nelson, Dr. Donald Vickery, Dr. S. D. Meares, Dr. Ian Cope, Dr. J. Beveridge and Dr. J. Macdonald. The assistance, advice, interest and co-operation of the Bureau of Statistics and Economics proved invaluable throughout and in fact, made the Survey possible.

Each case history was studied by individual members with a view to assessing the cause of death and any avoidable factor leading to the death. These were discussed in Committee and from the findings the Report was made. The time-consuming and difficult task of assessment which was undertaken by each member of the Committee was greatly appreciated and in particular the additional responsibility and work undertaken by the members of the Working Committee, Dr. T. Y. Nelson and Dr. Ian Cope.

The co-operation of the Hospitals in the completion of the case histories of public patients and of Medical Practitioners in completing private case histories proved invaluable to the Department. The work of the Medical Officers of the Division in obtaining the case histories of all public patients in the Metropolitan area of Sydney and in some Country Hospitals was a basic contribution to the work done by the Advisory Committee.

Action is being taken to carry out the recommendations set out in the Report.

The information obtained and the problems revealed by the 1958 Infant Mortality Survey resulted in a Perinatal Mortality Survey being undertaken which related to foetal deaths and deaths of infants under 28 days (neonatal) occurring in New South Wales in 1962. The inclusion of foetal deaths in this investigation was regarded as an essential step for progressive work in these investigations.

Two types of investigations were planned in the light of the experience gained in the 1958 Survey, a basic brief questionnaire of different format and colour for neonatal deaths and foetal deaths and special questionnaires to follow up certain causes of deaths. The causes chosen were those revealed in the 1958 Survey as, being the most important problems to be studied. These causes were toxaemia and antepartum haemorrhage.

It was deeply regretted that the special prematurity and congenital malformation investigations could not be implemented. This was particularly disappointing as the brief questionnaires had omitted many salient questions in regard to the causes and contained brief dragnet references only. Other objectives of the Survey were:—

(1) To continue the investigation of reasons why New South Wales Infant Mortality figures are higher than most states.

(2) To encourage better records in practice and more accuracy in the completion of Death certificates.

(3) To study the defects in available services for neonatal post mortem examinations, the defects in services and facilities for premature babies, and any deficiencies revealed in the care of the expectant mother or of the baby.

Throughout the planning, preparation and implementation of the 1962 Perinatal Mortality Survey the Bureau of Census and Statistics have again continually participated.

The primary objective of the 1958 and later Surveys has been to elucidate statistical comparisons of infant and perinatal mortality rates between the States of Australia and between Australia and other countries.

The method of classifying still births and neonatal deaths in the Manual of the International Statistical Classification of Diseases, Inquiries and causes of Deaths (1957: World Health Organisation) is as follows:—

> Certain Diseases of Infants (Section XV) and Congenital Malformation in Infants (Section XIV) relate to deaths of live births of infants under 12 months of age. In a supplementary list of the same manual Y20-29 relates to live born infants according to type of births and Y30-39 to causes of stillbirth. This is unsatisfactory as many causes of death of a baby before birth or shortly after birth are similar. The classification for foetal deaths and neonatal deaths therefore should be based on similar coding practice.

For this reason another important objective of the 1962 Survey was the preparation of a classification which would meet the dual, and in many cases identical problems presented by foetal and neonatal deaths. An acceptable and practicable perinatal coding has been devised by the Bureau in the course of the 1962 Survey which, it is anticipated, will be forwarded by the Commonwealth to the World Health Organisation.

The Consultants assisting the Department in the individual assessments of case histories were Dr. Ian Cope, Dr. D. Pfanner and Dr. J. Kemp. The Committee for the discussion of problem cases included these Consultants; two Officers of the Bureau of Census and Statistics (Mr. R. Dibley and Mr. M. Taylor); and Dr. Eric Burnard and Professor Harvey Carey.

Throughout this Survey the Perinatal Classification devised for reference to the World Health Organisation is being used and tested.

The National Health and Medical Research Council had devised a form for use as a compulsory death certificate for foetal deaths and neonatal deaths throughout the Commonwealth. In planning a Perinatal Survey for 1963 a form has been devised which will pre-test this form and evaluate the definitions of live birth and foetal death.

NOTIFICATION OF STAPHYLOCOCCAL INFECTIONS

Since certain staphylococcal infections were declared notifiable under the Public Health Act in September, 1958, practical difficulties have been experienced by Obstetric Hospitals in relation to the individual notifications of infections in infants under 4 weeks of age on the form because infections in this group are many and varied. Although such infections as paronychia and sticky eye may appear relatively unimportant, they act as an index of staphylococcal infection in any particular Hospital: these minor manifestations may lead to more serious types of infection.

In order to overcome these practical problems, various types of forms for notifications have been tried out with the co-operation of many Obstetric Hospitals. The most effective routine was found to be the procedure whereby the infected babies are notified on a form which provides for the inclusion of the names of a number of babies. The response to this method of notification has been good, and has resulted in 518 notifications in 1962, as opposed to 78 in 1961.

Alteration and amendment of the regulations under the Public Health Act in relation to infectious diseases are at present under consideration and it is planned to include provision for a new form of notification in order to facilitate notification of staphylococcal disease in infants under 4 weeks.

Either on request from the particular Hospital, or on the basis of increased notification, this Division has from time to time assisted Obstetric Hospitals with their problems of increased staphylococcal infection. Epidemiological surveys have been carried out with advice on planning and staff which has greatly assisted the hospitals in controlling infections in the mother and newly born. The co-operation of all Medical Officer's of Health in the inspection of Hospitals and other activities concerned with the control of staphylococcal infection has been greatly appreciated.

INFANT WELFARE

Baby Health Centres

During 1962, thirteen new Baby Health Centres were established while one was closed, making a net increase of twelve Centres. Additionally, seven Centres were transferred to new premises. In the financial year 1962, an amount of £70,000 was voted from Loan Funds for the establishment and Equipment of Baby Health Centres and a further sum of £57,500 covered commitments for new Centres, the costs of which had been accepted prior to June, 1961, and also allowed for the establishment of a Baby Health Centre at Hillston, in the Far West of New South Wales. At the end of 1962, there were 177 applications for new Centres or for replacement of existing ones and each application was considered as warranted.

The attendance at Baby Health Centres increased by 43,125 in 1962 to 1,153,766. When these figures were dissected into Health Districts (Table 3), it was apparent the increases were evenly spread over all districts. There was a slight fall of a few hundred in the Newcastle Health District, but this was not significant in a total of 104,774.

During 1961, a survey was conducted to determine the number of babies born in New South Wales who attended a Baby Health Centre at least once. This indicated that for a whole State 76 per cent. of all new born babies and 86 per cent. of first born babies so attended. These figures do not allow for infants seen by other organisations such as the Far West Children's Health Scheme and the Bush Nursing Association. To obtain a broader picture it was further necessary to determine how often a mother would be present with her baby and, in 1962, a survey was planned to ascertain figures which would demonstrate the average number of attendances of individual babies. The results of this survey should be available in 1963.

The past history of Baby Health Centres and their establishment has followed the general pattern of population distribution in New South Wales. The seaboard, the mountains and tablelands have the largest concentration of population and also the greater number of Baby Health Centres, but it was not until recently many of the small Western towns in New South Wales were given the advantage of such a service. Starting in 1961, a programme was planned to supply a Baby Health Centre to the more remote areas of the State. This service was to follow the usual pattern except that apart from the base Centre, the Sister was not to work in an established Baby Health Centre, but she was to conduct her activities in halls, shops or station properties or she would home visit if such accommodation was not available. Her base would be at a major town and she would travel throughout her district by car equipped with a 2-way radio.

The first of these circuits was established at Balranald serving the Balranald and Wentworth Shires. The pilot scheme met with immediate success and it has given excellent service to mothers and children in these remote areas. Based on this experience, a similar circuit is to be established at Hillston and plans are under way for the building and equipping of the base Centre in this town and the service should be operating by the middle of 1963. Further approaches have been made from the Shire Council at Nyngan. It is proposed to establish a similar service at Nyngan taking in Trangie, Nevertire and Warren and working with the Far West Children's Health Scheme, which at present conducts a rail car service to the area West of Nyngan. It is anticipated, in future years, that this type of Baby Health Service will be extended to larger areas of the Western Section of New South Wales, so that the mothers and children, in these Districts, will receive the same advantages as those mothers and children in the heavily populated areas.

The Division has received full co-operation from the Local Government Authorities and from the Country Women's Associations in the establishment of new Centres and in the smooth running of existing Centres. The co-operation of these Organisations and the work and time given by their members has been appreciated.

DECENTRALIZATION

Decentralization of the Department of Public Health into Health Districts has been under way for some time although difficulties have been experienced in relation to this Division because, before the Division's activities can be completely decentralized, a Nurse Inspector must be appointed to each Health District.

To-date, appointments of Nurse Inspectors have been made to the South Coast, Western and Hunter River Districts and as a result, in these three areas, full decentralization has been achieved. Some of the Division's activities have been handed over to the North West and North Coast Health Districts, but until such times as the appointment of a Nurse Inspector has been made in these two areas, full decentralization cannot take place.

In each Health District, apart from finance and staff, full responsibility for Maternal and Child Health activities devolves on the Medical Officer of Health. This method has allowed increased activities in the various Districts. It is anticipated that when the decentralization is completed this Division will be in a far better position to increase its activities in the Metropolitan area of Sydney and the Far Western area of the State.

PRENATAL CLINICS

As mentioned previously in this report, it has been found essential that emphasis should continue to be placed on the prenatal care of the mother with a view to preventing pre-eclamptic toxaemia and ante-partum haemorrhage, both of which play a major role in maternal and infant deaths; but examinations must be frequent and thorough during this period.

The rapid growth of population in New South Wales and the concentration of the population in the larger cities created difficulties both for the Obstetric Hospitals and the pregnant mother. Younger families are now living in the out-lying districts of the cities in the State; at times 20 to 30 miles from the Hospital in which the mother plans to have her confinement. To travel these long distances is costly and tiring and if there are other small children in the family it becomes almost impossible.

The Department of Public Health, over the years, has recognised this expansion of the Metropolis and has established Prenatal Clinics in Baby Health Centres in these out-lying areas. These Clinics are strategically placed so that they serve those mothers who are so handicapped; the Clinics are free. They are staffed by Baby Health Centre Nurses and Medical Officers from the Division. This service only applies to Public Hospital patients and with the exception of Parramatta and Blacktown, the patient must be booked in at a Public Obstetric Hospital before attending these satelite out-patients Centres.

In 1962, it was decided to try to improve the situation of these mothers even further by arranging for the " booking " to be made, not at the Obstetric Hospital in the first instance, but at the Prenatal Clinic. Senior Specialist Obstetricians attached to a Teaching Hospital, who act in an Honorary capacity at the Clinics, have started a pilot scheme of this nature in two out-lying Centres; Parramatta and Blacktown. This, of necessity, has involved an extension of the services and facilities previously available. Full examination of the mother is necessary which includes routine blood tests and X-rays where necessary. Difficulties arose, but were overcome with the co-operation of the Obstetric Hospitals concerned, the District Hospitals, the Red Cross Blood Transfusion Service and the Institute of Clinical Pathology at Lidcombe. It would appear that this scheme will eventually work satisfactorily but other advantages also available at the Obstetric Hospitals must be supplied, *e.g.*, Physiotherapy and Education on " Preparedness for Child Birth." Plans are already under way to introduce both these aspects of Prenatal care into the pilot Clinic at Parramatta in 1963.

The advice of Dietitians has always been available to the Prenatal Clinics so that the mother has full coverage on this aspect of her care.

The Prenatal period is also recognised as the best time to introduce the mother to all aspects of parenthood. It is recognised that the most receptive time for this type of information is when the mother is pregnant and although the instruction would be purely introductory, it is hoped that some of the mothers will join Discussion Groups which would continue after the child is born. In all these schemes, wherever applicable the father will be included so that special evening classes will be held when both parents can attend. This type of training has proved very successful in some of the Teaching Hospitals and it is anticipated that although difficulties will arise, nevertheless, a simple pilot scheme should get under way in 1963.

The Prenatal Clinics were increased in number from 11 to 15 in 1962, two in the City of Greater Newcastle (at Cardiff and Charlestown) and two in the Metropolitan Area of Sydney (at Blacktown and Seven Hills).

Details of the attendances at these Clinics will be found in Table IV.

MOTHER DISCUSSION GROUPS

In 1961, with the help of the Mental Health Association of New South Wales, Discussion Groups for mothers were started in a number of Baby Health Centres. These Discussion Groups were an excellent form of Health Education and were of great assistance to mothers in " talking out " the many problems which affect them in the rearing of their children. They are popular and the demand for such groups is increasing. Some extension of this work was made in 1962, although it had to be limited because the number of trained leaders was small. Leaders are being trained as rapidly as possible so that ultimately the demand will be met, at least in the Metropolitan area. Group Leaders are at present supplied by the Mental Health Association.

Discussion Groups are held in the evenings.

INFANT FEEDING

With the growth of the Commonwealth and the passage of time, the pattern of feeding has changed. Whereas 20 years ago the emphasis was placed on rigid routines, to-day a more permissive attitude is adopted. In New South Wales in the past, various methods of feeding were favoured by different " authorities ". This resulted in confusion and made it difficult for mothers to understand why " authorities " varied on this vital aspect of child rearing. Medical students and mothercraft nurses were not necessarily taught the same routines, thus the General Practitioner and the Baby Health Centre Sister were often at variance.

In order to clarify the situation and to obtain the same standards, particularly in relation to bottle feeding, the Department set up a special committee on Infant feeding. On this Committee were representatives of the various organisations responsible for the teaching of medical students and nurses. These included Professors from both Universities in Sydney and representatives of the Nurses Training Schools.

At the end of 1962, much work had been carried out in this regard and it is planned that the Committee will set down certain principles in the near future. These principles will form the basis of not only the Feeding Notes that go to the Baby Health Centre Sisters, but it will also form the material for the training of medical students and nurses.

BREAST FEEDING

It is accepted by all Paediatricians, and other experts in child care, that breast feeding is the most satisfactory way in which an infant should be fed. Over the years, the number of mothers breast-feeding their babies has fallen, due to many factors. In order to determine the incidence of breast feeding to-day, a survey of children under one year of age attending Baby Health Centres was undertaken during the period of three months from 1st December, 1959 to 29th February, 1960, to ascertain type of feeding. Fourteen Baby Health Centres in the Sydney Metropolitan Area and twelve in the remainder of the State were selected, an attempt being made to ensure each broad Baby Health Centre size group and each geographical area was represented. The type of feeding given each infant was recorded at the infant's first visit at a Centre during the period of the survey. Particulars were recorded for 3,519 infants in the Sydney Metropolitan Area and 2,393 in the remainder of the State.

Table I shows details of the type of feeding given to children up to nine months of age.

The percentage of babies completely or partly breast fed at all ages under six months was higher in the Metropolitan Area than the rest of the State. Percentages for the first four months of age being—

	Age in Months				
	Under 1	1	2	3	4
Sydney Metropolitan Area	78·2	71·7	59·4	51·2	42·4
Rest of New South Wales	74·0	61·7	45·1	37·9	36·7

There was also a noticeable difference in numbers being fed on infant foods other than fresh cow's milk, percentages in the remainder of the State being much higher than in the Sydney Metropolitan Area. This reflects the advice of Sisters to prefer these foods in areas where pasteurised cow's milk is not obtainable.

A feature of the table is the high percentage of mothers who fail in the attempt to breast feed their babies. Although 78·2 per cent. and 74 per cent. of mothers in the Metropolitan Area and the rest of the State respectively were breast feeding babies under one month of age, the percentages had dropped to 28·6 per cent. and 30 per cent. respectively for mothers of babies aged six months.

It has been found that the most difficult period for a mother with breast feeding is the first four to eight weeks after the birth of the child; during this period, breast feeding is normally established. If the mother is not encouraged and given the necessary assistance during this time firstly in an Obstetric Hospital and later on her return home by the Baby Health Centre Sister, either in her home or at the Centre, many mothers despair and give up breast-feeding. It is also regrettable that some Medical Practitioners encourage this action.

It is also essential that the choice of either breast or bottle feeding a baby remains with the mother, this is her right. No pressure should be exerted to force breast feeding for this is repugnant to some mothers.

Table I—Survey of Type of Feeding Given Infants Attending Selected Baby Health Centres During December, 1959 to February, 1960

A. SYDNEY METROPOLITAN AREA

1. *Number of Infants*

Type of Feeding	Age in Months							
	Under 1	1	2	3	4	5	6	7-9
Breast fed or partly breast fed ..	229	299	252	188	128	136	90	105
Cow's milk	36	55	86	115	113	150	180	552
Infant foods other than fresh cow's milk	28	63	86	64	61	69	45	51
Total	293	417	424	367	302	355	315	708

2. *Percentage of Total*

Type of Feeding	Under 1	1	2	3	4	5	6	7-9
Breast fed or partly breast fed ..	78·2	71·7	59·4	51·2	42·4	38·3	28·6	14·8
Cow's milk	12·3	13·2	20·3	31·3	37·4	42·3	57·1	78·0
Infant foods other than fresh cow's milk	9·5	15·1	20·3	17·5	20·2	19·4	14·3	7·2
Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

B. REMAINDER OF NEW SOUTH WALES

1. *Number of Infants*

Type of Feeding	Under 1	1	2	3	4	5	6	7-9
Breast fed or partly breast fed ..	205	190	120	73	80	81	67	63
Cow's milk	25	60	86	68	84	96	121	342
Infant foods other than fresh cow's milk	47	58	60	58	47	61	35	40
Total	277	308	266	199	211	238	223	445

2. *Percentage of Total*

Type of Feeding	Under 1	1	2	3	4	5	6	7-9
Breast fed or partly breast fed ..	74·0	61·7	45·1	36·7	37·9	34·0	30·0	14·2
Cow's milk	9·0	19·5	32·3	34·2	39·8	40·3	54·3	76·9
Infant foods other than fresh cow's milk	17·0	18·8	22·6	29·1	22·3	25·7	15·7	8·9
Total	100·0	100·0	100·0	100·0	100·0	100·0	100·0	100·0

PRE-SCHOOL CHILD

Kindergartens and Day Nurseries

For many years this Division has provided a Medical service to Pre-school Centres, conducted by the Sydney Day Nursery and Nursery School Association (Inc.) the Kindergarten Union of New South Wales (Inc.); and Local Government Authorities.

The number of Pre-school examinations carried out by the Division in 1962, was as follows:—

Kindergarten 1st examination..	1,237
Review	446
Day Nurseries 1st examination	498
Review	435
Total..	2,616

Pre-school medical examinations are carried out in the presence of the mother and this is quite informal, so that the children accept it without distress. This introduces the child to a type of examination different from the ordinary visit to a doctor, thus the co-operation of both mother and child is attained. If abnormalities are detected, either physical or emotional, the child is referred to the appropriate authority and, periodically, a review examination is conducted.

An extension of this service to other children in the State would be an advantage.

PAEDIATRIC CLINICS

Clinics are conducted in Baby Health Centres by Medical Officers of the Division where children accompanied by their mothers, are seen and advice is given on general health. These Clinics have been variously called over the last twenty years " Well Baby Clinics ", " Pre-school Clinics ", and " Paediatric Clinics ". As the basis of these Clinics is the care of the well child, the word " Paediatric " to date has been avoided, however, neither " Well Baby " nor " Pre-school " is applicable, therefore the term " Paediatric " has been finally chosen.

The Baby Health Centre Sister refers to these Clinics any child about whom they are concerned, and also, when the mother requests an examination. An extension of this service is urgently required, but the mother must be persuaded in the first place that a routine medical examination is worthwhile, for her co-operation is essential.

The problem of providing services to the child under five is at present under consideration by the Department of Public Health and it is anticipated that in 1963, a decision will be made as to the type of service that should be established.

Table V gives details of the attendances at the " Paediatric Clinics " and the number and type of referrals.

DIVISIONAL PUBLICATIONS

The following booklets are prepared for publication in this Division:—*Our Babies*, *Healthy Motherhood*, *Infection of the Newly Born and Care of the Premature Baby*, and *Obstetrics in New South Wales.*

In 1961, *Healthy Motherhood* was re-written and approximately 60,000 copies distributed to expectant mothers, Obstetric Hospitals, General Practitioners and Specialist Obstetricians. A reprint was made in 1962 with minor alterations and additional copies will be printed to meet the existing demand.

During 1962, *Our Babies* was completely re-written and the rigid doctrines eliminated in favour of a more permissive attitude towards the child; the new edition should be available early in 1963. This booklet has a wide distribution not only in this State, but in New Guinea and the Pacific Islands

The booklet *Emergency Obstetrics* was re-written in 1962 and the title changed to *Obstetrics in New South Wales.* This booklet is only issued to Medical Practitioners and Obstetric Hospitals. Special emphasis has been given to complications of pregnancy, *e.g.*, Haemorrhage, since stress must constantly be placed on the prevention of such complications, particularly in New South Wales, where many doctors practice in areas that are remote from major Obstetric Hospitals. The booklet is attractive and is a valuable publication, widely used by the practising profession.

It has been the intention of this Division to divide the booklet *Infection in the Newly Born and Care of the Premature Baby* into two separate publications elaborating on the material available. To date, however, this has not been possible but in 1963, every effort will be made to produce these two new booklets because of their value to Hospitals and Medical Practitioners.

TABLE II—BABY HEALTH CENTRES

A. Number of Established Baby Health Centres

Health District	1961	1962
Metropolitan	132	139
Newcastle	55	56
South Coast	46	47
Western	43	45
North Coast	24	25
North Western	16	17
Riverina	56	54
Broken Hill	4	4
Unincorporated	2	2
Total	378	389

Table III

B. Attendances at Baby Health Centres

The individual and total attendances at Baby Health Centres situated within the Health Districts during 1962, compared with those for 1961 were:—

Health District	Individual Attendances		Total Attendances	
	1961	1962	1961	1962
Metropolitan	68,683	73,667	687,503	714,099
Newcastle	12,325	11,904	104,774	104,442
South Coast	9,912	10,231	88,832	90,207
Western	8,580	8,296	75,119	75,588
North Coast	4,096	4,534	39,121	40,654
North Western	4,295	4,417	36,676	38,099
Riverina	7,538	8,612	71,910	72,671
Broken Hill	1,417	1,432	15,073	14,648
Unincorporated	92	626	633	1,358
Total	116,938	123,710	1,110,641	1,153,766

Table IV—Attendances at Prenatal Clinics, 1962

Clinic	Primiparae		Multiparae		Post Natal	Total Visits	No. of Sessions
	First	Subsequent	First	Subsequent			
Metropolitan Health District—							
Blacktown	1	2	2	13	..	18	1
Campsie	15	93	36	301	..	446	51
Dee Why	22	186	112	658	53	1,031	56
Granville	37	218	115	721	..	1,125	52
Hornsby	3	23	13	121	4	163	52
Hurstville	24	211	73	493	4	904	52
Liverpool	30	167	121	743	..	1,062	48
Manly	65	464	129	933	..	1,580	46
Mascot	23	86	54	324	1	489	50
Narrabeen	46	313	92	747	1	1,209	52
Parramatta	105	569	306	1,997	11	3,009	104
Seven Hills	39	193	178	1,255	1	1,683	48
Total	294	2,525	1,231	8,306	75	12,719	612
Newcastle Health District—							
Belmont	23	270	84	991	60	1,350	49
Cardiff	4	..	7	..	..	11	1
Charlestown	12	103	62	842	42	1,070	41
Total	39	373	153	1,833	102	2,431	91
Grand Total ..	333	2,898	1,384	10,139	177	15,150	703

Table V—Attendances at Paediatric Clinics

Pre-school Clinic B.H.C.	Total No. of cases	Referrals by M.O. (local Drs.)	No. of cases referred		Type of Case						No. of cases counselled at Pre-school Clinic
			*Clinics	Private Dr.	Feeding	Emot-ional	Medical	Surgical	Ortho-paedic	Routine exams.	
Parramatta ..	132	1	29	23	12	35	14	26	43	2	80
Pendle Hill ..	140	2	22	5	15	3	1	105	15	1	113
Caringbah ..	285	1	7	46	23	41	22	32	38	23	No record kept of 106 cases.
Bankstown ..	117	3	19	13	11	34	11	34	23	4	85
Liverpool	149	..	38	11	25	23	35	45	19	2	100
Balmain	44	No record	9	5	13	7	7	7	6	4	30
Gladesville ..	124	"	16	6	7	3	1	45	31	50	102
Dee Why ..	241	"	27	20	70	38	56	9	53	18	194
Hornsby	139	..	3	8	72	26	..	36	..	5	128
Total ..	1,371	7	170	137	248	210	147	339	228	109	938

Ages	Horsnby	Dee Why	Balmain	Caringbah	Liverpool	Bankstown	Pendle Hill	Parramatta	Gladesville	Totals
Over 3 ..	5	45	4	100	36	34	17	36	50	327
Under 3 ..	134	196	40	185	123	83	123	84	74	1,042

*Child Guidance.
Child Health Centres.
R.A.H.C. and other Hospitals.

VITAL STATISTICS

Birth Statistics

The number of live births registered in New South Wales during 1962, was 85,439, a decrease of 953 compared with the previous year. The rate of 21·46 per 1,000 of mean population was slightly below the average rate for the previous ten years.

Stillbirths registered declined sharply from 1,306 in 1961 to 1,099 in 1962. Both the number of stillbirths and the rate of 12·70 per 1,000 total births were the lowest ever recorded.

TABLE VI—SUMMARY OF LIVE BIRTHS AND MATERNAL, FOETAL AND INFANT DEATHS, NEW SOUTH WALES, 1935-1962

Year	Live Births	Maternal Deaths	Deaths under 1 year of Age	Deaths under 28 days of Age	Stillbirths (*a*)	Perinatal Deaths (*b*)
			NUMBER			
1935	44,676	282	1,762	1,240	1,419 (*f*)	2,785 (*f*)
1940	49,382	209	1,927	1,263	1,342	2,605
1945	61,662	139	1,889	1,344	1,540	2,884
1950	71,592	80	1,936	1,345	1,406	2,751
1955	74,407	55	1,850	1,288	1,243	2,531
1960	81,983	56	1,735	1,250	1,261	2,511
1961	86,392	43	1,800	1,284	1,306	2,590
1962	85,439	29	1,825	1,321	1,099	2,420
			RATE			
	(*c*)	(*d*)	(*d*)	(*d*)	(*e*)	(*e*)
1935	16·89	6·31	39·44	27·76	29·80 (*f*)	58·49 (*f*)
1940	17·78	4·23	39·02	25·58	26·46	51·36
1945	21·14	2·25	30·63	21·80	24·37	45·63
1950	22·24	1·12	27·04	18·79	19·26	37·69
1955	21·30	·74	24·86	17·31	16·43	33·46
1960	21·38	·68	21·16	15·25	15·15	30·16
1961	22·07	·50	20·84	14·86	14·89	29·53
1962	21·46	·34	21·36	15·46	12·70	27·96

(*a*) A stillborn child is defined as "any child of seven months gestation or over not born alive, and includes any child not born alive which measures at least fourteen inches, but does not include any child which has actually breathed."

(*b*) Stillbirths plus deaths under 28 days of life.

(*c*) Number per 1,000 of mean population.

(*d*) Number per 1,000 live births.

(*e*) Number per 1,000 total births (live and still).

(*f*) Compulsory registration of stillbirths commenced in New South Wales in 1935. Figures shown are for year 1936, the first full year for which figures are available.

Maternal Mortality

Information relating to maternal mortality is shown in Tables VI, VII and VIII.

During 1962, the number of deaths from maternal causes (excluding criminal abortion) in New South Wales was 26, which represents a mortality rate of 3 women per 10,000 live births. This is the lowest rate recorded in the State.

In 1962, three women died in New South Wales from criminal abortion compared with nine in 1961.

TABLE VII—TOTAL MATERNAL DEATHS AND DEATHS FROM CRIMINAL ABORTION, NEW SOUTH WALES, 1940-1962

Year	Total Maternal Deaths (including Criminal Abortion)		Deaths from Criminal Abortion	
	Number	Rate per 1,000 Live Births	Number	Rate per 1,000 Live Births
SYDNEY METROPOLITAN AREA				
1940	81	4·06	22	1·10
1950	24	·81	6	·20
1960	21	·51	7	·17
1961	21	·48	5	·11
1962	15	·34	3	·07
REMAINDER OF STATE				
1940	128	4·35	12	·41
1950	56	1·33	4	·09
1960	35	·85	5	·12
1961	22	·52	4	·09
1962	14	·33	....	....
NEW SOUTH WALES				
1940	209	4·23	34	·11
1950	80	1·12	10	·14
1960	56	·68	12	·14
1961	43	·50	9	·11
1962	29	·34	3	·04

TABLE VIII

Table VIII shows a comparison of the causes of maternal deaths for the years 1960 to 1962.

DEATHS DUE TO MATERNAL CAUSES, NEW SOUTH WALES

NUMBER AND RATE, 1960 TO 1962

Cause of Death (*a*)	1960	1961	1962
NUMBER			
Toxaemia of pregnancy	9	4	4
Ectopic pregnancy	3	1	3
Placenta praevia and other haemorrhage of pregnancy	..	3	..
Other complications of pregnancy	5	4	2
Abortion, excluding criminal	4	3	4
Delivery complicated by haemorrhage	8	4	2
Delivery with other specified complications	5	5	5
Puerperal urinary infection without other sepsis	..	..	1
Sepsis of childbirth and the puerperium	..	2	2
Puerperal phlebitis and thrombosis	1	1	..
Puerperal pulmonary embolism	6	2	3
Other and unspecified complications of the puerperium	3	5	..
Total, excluding criminal abortion	44	34	26
Criminal abortion	12	9	3
Total	56	43	29
RATE (*b*)			
Toxaemia of pregnancy	·11	·05	·05
Ectopic pregnancy	·04	·01	·04
Placenta praevia and other haemorrhage of pregnancy	..	·03	..
Other complications of pregnancy	·06	·05	·02
Abortion, excluding criminal	·05	·03	·05
Delivery complicated by haemorrhage	·10	·05	·02
Delivery with other specified complications	·06	0·6	·06
Puerperal urinary infection without other sepsis	..	..	·01
Sepsis of childbirth and the peurperium	..	·02	·02
Puerperal phlebitis and thrombosis	·01	·01	..
Puerperal pulmonary embolism	·07	·02	·04
Other and unspecified complications of the puerperium	·04	·06	..
Total, excluding criminal abortion	·54	·39	·30
Criminal abortion	·14	·11	·04
Total	·68	·50	.34

(*a*) Classified according to the Seventh Revision (1955) of the International Classification of Diseases.
(*b*) Number of deaths per 1 000 live births.

Infant Mortality

The figures for infant mortality from 1935-1962 are shown dissected by age groups in Table IX. Nearly three-quarters of the deaths under one year of age occur in the first 28 days of life and the majority of these occur within 7 days of birth. At these ages the causes of death are mainly antenatal and are similar to the causes of stillbirths. The number and mortality rate from stillbirths and deaths under 28 days of age combined (perinatal deaths) are shown in Table VI.

Table IX—Infant Mortality in Age Groups, New South Wales, 1935-1962

Year	Under one week	1 week and under 1 month	1 month and under one year	Total under one year
		NUMBER OF DEATHS		
1935	1,027	213	522	1,762
1940	1,043	220	664	1,927
1945	1,127	217	545	1,889
1950	1,157	188	591	1,936
1955	1,118	170	562	1,850
1960	1,109	141	485	1,735
1961	1,135	149	516	1,800
1962	1,160	161	504	1,825
		RATE PER 1,000 LIVE BIRTHS		
1935	22·99	4·77	11·68	39·44
1940	21·12	4·46	13·44	39·02
1945	18·28	3·52	8·83	30·63
1950	16·16	2·63	8·25	27·04
1955	15·03	2·28	7·55	24·86
1960	13·53	1·72	5·91	21·16
1961	13·14	1·72	5·98	20·84
1962	13·58	1·88	5·90	21·36

Infant mortality during the years 1961 and 1962 from causes assigned to the major groups of diseases in the International Classification are set out in Table X. The table compares the rates in the Metropolis and the remainder of the State.

Table X—Causes of Death with Rates of Children under One Year of Age, New South Wales—1961-1962

Class No.	Cause of Death (*a*)	Sydney Metropolis Area Rate (*b*)		Remainder of State Rate (*b*)		New South Wales Rate (*b*)		New South Wales Number	
		1961	1962	1961	1962	1961	1962	1961	1962
1 ..	Infective and parasitic diseases ..	·41	·18	·19	·50	·30	·34	26	29
2. ..	Neoplasms	·14	·07	·10	·09	·12	·08	10	7
3. ..	Allergic endocrine system, metabolic and nutritional diseases	..	·02	·10	·12	·05	·07	4	6
4. ..	Diseases of the blood and blood forming organs	·04	·02	..	·07	·02	·05	2	4
5. ..	Mental psychoneurotic and personality disorders	·09	·11	·10	·02	·09	·07	8	6
6. ..	Diseases of the nervous system and sense organs	·45	·44	·28	·29	·37	·36	32	31
7. ..	Diseases of the circulatory system ..	·04	·05	·02	·05	·04	·05	3	4
8. ..	Diseases of the respiratory system ..	1·64	1·58	2·21	2·03	1·92	1·80	166	154
9. ..	Diseases of the digestive system ..	·73	·90	·11	1·69	·91	·80	79	68
10. ..	Diseases of the genito-urinary system	·02	·09	·02	..	·02	·05	2	4
12. ..	Diseases of the skin and cellular tissue	..	..	·07	·05	0·4	·02	3	2
13. ..	Diseases of the bones and organs of movement	·05	·05	..	..	0·2	·02	2	2
14. ..	Congenital malformations	4·37	3·95	3·53	4·05	3·96	4·00	342	342
15. ..	Certain diseases of early infancy ..	11·54	11·54	13·03	13·76	12·27	12·63	1,060	1,079
16. ..	Symptoms and ill-defined conditions	·02	·21	·05	·05	·04	·13	3	11
17. ..	Accidents, poisoning and violence ..	·41	·92	·94	·86	·67	·89	58	76
	Total, All Causes ..	19·95	20·13	21·75	22·63	20·84	21·36	1,800	1,825

(*a*) Classified according to the Seventh Revision (1955) of the International Classification of Diseases.

(*b*) Number of deaths per 1,000 Live Births.

More than three-quarters of the infant deaths are due to diseases peculiar to early infancy and congenital malformations. A more detailed dissection of the causes is given in Table X above.

Division of Occupational Health—Annual Report, 1962

STAFF

Director: Dr. Alan Bell, M.B., B.S., D.I.H.

Senior Medical Officers—2.

Adviser, Industrial Nursing—1.

Officer-in-Charge, Radiation Branch: Mr. H. M. Whaite, B.E.

Air Pollution Control Engineer, Air Pollution Branch: Dr. J. L. Sullivan, Ph.D., M.Sc., A.M. Chem. E.

Scientific Officers—12; Fuel Engineer—1; Chemical Engineer—1; Demonstrator in Human Kinetics—1; Radiographer Inspectors—2; Laboratory Assistants—2; Laboratory Attendant—1; Photographic Assistants—2; Analyst-in-Training—2; Trainee-in-Chemical Engineering—1; Field Assistant—1; Clerical Staff—8.

During the year the Air Pollution Branch was formed and approval obtained to appoint six staff, in addition to those who were already working on this aspect of the Division's activities; this Branch was formed in order to meet the Department's anticipated increased administrative and scientific responsibilities when the Clean Air Act of 1961 is proclaimed.

The numerical strength of the Radiation Branch was increased by two radiographers so as to enable the Division to carry out the required inspections resulting from the amendment to the original Act, whereby the exemptions granted from licensing to medical practitioners, dentists and veterinary surgeons has been repealed.

The other new appointment is a female clerical officer. At the time of writing not all the above appointments have been filled.

NEW ACTS AND REGULATIONS

1. N.S.W. Radioactive Substances Act and Regulations

There were two amendments to the Regulations during the year. The first added the words " Danger Radiation " to the Radiation symbol. The second amended the schedule of the maximum permissible concentrations of nucleides in breathing air and drinking water. This brings our Schedule into line with the 1959 recommendations of the International Commission on Radiological Protection and includes members of the population at large as well as radiation workers, and occupationally exposed non-radiation workers. Some minor amendments were also made at the same time, one being that the waste-disposal concentrations were set at 100 times those permitted in breathing air and drinking water for the population at large.

2. Luminous Radio-active Substances Regulations

These regulations were gazetted in 1945 and are administered by the N.S.W. Department of Labour. This legislation is now being reviewed by both Departments in the light of modern knowledge and technological developments.

3. Clean Air Act

During the year six meetings of the Air Pollution Advisory Committee have been held. In order to prepare draft Regulations six meetings of the Licensing and Procedural Subcommittee and ten of the Emissions and Equipment Standards Subcommittee have also been held.

4. Electroplating Regulations

Several meetings have taken place with the N.S.W. Department of Labour in order to prepare draft legislation to control health hazards associated with this process.

STATISTICAL DATA

Table I summarises the main activities, classified into several broad categories, of the Division.

Table I

Type of Activity	1960	1961	1962
1. Medical—			
Number of patients examined	1,786	1,228	1,046
Blood slides examined for evidence of lead poisoning—			
(*a*) Slides examined by or sent by medical officers working in factories where a lead process is carried out	5,135	3,286	7,042
(*b*) Slides of men examined at the Division	362	620	460
Number of other pathological tests carried out	3,808	4,232	3,877
2. Scientific—			
Number of " Industrial Health " visits	818	1,172	1,580
Number of " Radiation " visits	137	311	210
Number of " Air Pollution " visits	248	304	430
Number of Theatres and Halls inspected	1	9	6

The reduction in the number of " radiation " visits was caused by the absence overseas of the Officer-in-Charge of that Branch. On the other hand, the increase in " Air Pollution " visits resulted from the growing public attention to the problem. As available staff was very limited many of the visits were of a preliminary nature only. It is anticipated that the number of air inspections will increase manifold in the next year or two.

Table II shows the various aspects of " Industrial Health ", for which comparatively large numbers of visits were made.

TABLE II

Nature of Visit	Number of Visits
Agricultural Health—	
(*a*) Farms	62
(*b*) Orchards	170
(*c*) Market Gardens	45
(*d*) Nurseries	43
Dermatitis..	70
Dust Problems	117*
Human Engineering—	
(*a*) Machine or Process Design	86*
(*b*) Occupational Climatology	60*
(*c*) Physiological Responses to Work ..	27*
(*d*) Manual Handling	151
Industrial Nursing	92
Noise—	
(*a*) Industrial	65
(*b*) Residential	114

* Because of difficulties in classifying certain visits, these figures must be regarded as approximate only.

SPECIFIC ACTIVITIES

Medical Services on the Waterfront

At the request of the Committee of Interstate and Overseas' Shipowners Accident Prevention Organisation, arrangements have been made for representatives of the Stevedoring Authority to refer day to day health problems as opposed to those of a long-term nature, to the Division for opinion.

Dermatitis

Because of the number of cases of dermatitis seen caused by some of the epoxy resins, it has been decided to prepare a departmental booklet on this subject.

As in previous years the commonest causes of the cases of dermatitis investigated were cement, oil, fibreglass, and some of the epoxy resins.

Lead

Table III shows the results of stipple cell counts carried out on the slides of employees working in three broad categories of industries using or manufacturing lead compounds.

TABLE III

Industry	Number of slides submitted			Number of Slides with Stipple Cell Counts of					
				3,000—5,000			5,000 or more		
	1960	1961	1962	1960	1961	1962	1960	1961	1962
Battery Works	2,269	2,927	2,184	80	218	111	64	76	69
Manufacture of lead compounds ..	525	1,324	3,061	30	219	475	16	98	199
Miscellaneous other users of lead ..	2,341	1,436	1,797	115	144	175	56	80	69
Totals	5,135	5,687	7,042	225	581	761	136	254	337

Atmospheric sampling has been carried out inside several factories to determine the points of origin of lead dust or fume. In one, a young and previously fit man was hospitalised when his haemoglobin level fell to 10 gms., accompanied by a red cell count of 3·5 million and a stipple cell count of 11,000. He had a urinary porphyrin of 1,200 micrograms/litre; his lead-in-urine result was 0·42 mg./litre. The main sources of his exposure originated from the weighing of frit from a 44-gallon drum into a small can and from screening refuse; breathing zone concentration of 2·3 and 12·8 mg. of lead per cubic metre of air were respectively obtained.

At a medium-sized battery manufacturer, several cases of lead absorption occurred after a period of some years during which the blood counts had been constantly normal. Excessive atmospheric concentrations arose from several sources—namely during red lead bumping, during the breaking, sawing and inspection of plates, and spine moulding. The breathing zone concentrations were of 0·53, 0·33, 0·35 and 0·26 milligrams of lead per c.m. of air respectively. These concentrations were subsequently reduced to acceptable limits by the introduction of certain engineering modifications.

Several cases of excessive lead absorption occurred, amongst the sinter operators and maintenance staff of a large smelter. Despite several leads in urines of 0·50 mg./litre and stipple cell counts in excess of 10,000 none of those concerned would admit to clinical symptoms. Prompt and effective measures were taken by management to immediately correct the defective conditions.

The overall percentage of counts in excess of 3,000 per million red blood cells (Table III) is approximately 15·8 per cent.; this is a considerable increase on previous years and was mainly caused by the inplant conditions of the last two factories.

Alkali Mist

Two young employees complained of repeated nose bleedings and sneezing whilst working in a large heat treatment room.

After the articles being manufactured had been immersed in the cyanide pot, they were tipped into water containing approximately 4 per cent. sodium hydroxide. The following concentrations of alkali mist were detected in the breathing zones of the operators.

TABLE IV

Process	Alkali Mist in Air Expressed as milligrams of Sodium Hydroxide per Cubic Metre of Air
Removing basket from cyanide pot at 920° and water quenching ..	11·4
Removing basket from cyanide pot at 920° and water quenching 20 minutes after test No. 1	16·2

Dust

Investigations were carried out to determine the relative dustiness of brick dragging in Automatic Stoker Fired Continuous Kilns as compared with hand-fired kilns, both continuous and Staffordshire types. From this point of view, there were practically no differences between hand stoking, overhead, and mechanical stoking. Whilst it is true that conditions during dragging and breaking were visibly dusty, much of this dust is of large particle size and so does not constitute a potential danger to health. Approximately half of the samples collected were in excess of the suggested standard of 550 particles per c.c.

Excessively high dust concentrations have been found whilst firebrick cutting and grinding.

Further investigations have been carried out in the sand mining industry. Many people consider that there is an associated dust health hazard either in the vicinity of the rotary kiln or whilst operating the electrostatic and magnetic separators. Dust tests taken at several mining locations, have never detected high concentrations. This contrasts with working conditions at some of the gravel and road metal companies; the free silica content of the dust and atmospheric concentrations are often high.

Carbon Monoxide

As in previous years tests have been carried out in industrial situations where it was thought that there might be high concentrations of this gas, *e.g.*, in the holds of ships while using diesel-powered fork lift trucks, while annealing and sealing wires into electrodes in the manufacture of tube lights and illuminated signs, from car fumes and during the peak hour rush in the recently completed Cahill expressway tunnel, etc. In most of these situations, including the latter, the expressed fears were groundless.

Because of the difficulties sometimes associated with rapidly varying atmospheric concentrations of this gas, the Division will whenever necessary carry out carboxy haemoglobin estimations on the blood of exposed employees.

Evaluation tests have been carried out on a mobile precision kerosene or oil burning furnace, recommended for use as an industrial space heater.

The Division has also investigated the usefulness of an inexpensive dark spot carbon monoxide indicator. The tests show that the indicator will react and give a definite colour change in the presence of carbon monoxide concentrations even below the Maximum Allowable Concentration. At higher concentrations the response of the indicator is amply fast and definite to give a warning that a dangerous quantity of the toxic gas is present in the atmosphere. However, the recovery of the indicator to its original colour is very slow and incomplete. The sensitivity of the device and the slowness of recovery imply that even very small concentrations of carbon monoxide (below 50 ppm.) will slowly and permanently darken the tablet so that it will no longer be effective. This will considerably detract from its usefulness as a warning device unless the tablet is changed frequently.

Hydrogen Sulphide

Investigations were carried out because of an " outbreak " of conjunctivitis during the excavation of a tidal swamp area. On questioning the employees also complained of headaches and nausea when working in the excavations being dug for anchorages for transmission line towers (8 ft. x 8 ft. x 14 ft. deep). Tests for oxygen, carbon dioxide and methane were normal; up to 4 ppm. of hydrogen sulphide were detected. There is reason to believe that previously concentrations of this gas may have been considerably higher.

Solvents

Trichlorethylene

In conjunction with the N.S.W. Department of Labour, 92 factories were visited to determine the methods of using trichlorethylene; detailed investigations were carried out in 15. Several unsatisfactory degreasing tanks, some home made and others commercially produced were found.

At a Sydney brewery two employees were engaged in painting the internal seams of a large horizontal storage tank with a bituminous paint containing 75 per cent. trichlorethylene. Four infra red heaters were used prior to and during the painting. On the day of the accident, one painter discontinued the use of an air line respirator because he thought that the air supply was contaminated. A little later, a painter resting outside the tank observed that his workmate inside was becoming increasingly incoherent, had a staggering gait and " appeared to be drunk ". When this employee left the tank, his workmate took his place and was subsequently found lying unconscious inside the vessel. The second person also became unconscious whilst trying to effect a rescue; fortunately both were quickly seen and safely rescued. The next day officers of the Division determined that in all probability there had been concentrations in excess of 3,000 parts per million of trichlorethylene inside the tank. An article describing this episode has been accepted for publication.

Carbon Tetrachloride

A man was admitted to hospital with acute nephritis; subsequently he developed oliguria and required treatment with the artificial kidney. This man's work was that of a mechanic for a firm servicing fire extinguishers. Continuous monitoring of the breathing zone was carried out whilst extinguishers were topped up with this solvent; carbon monoxide concentrations ranged from 5 to 10 ppm. These were not only very low but also very brief in duration. Despite intensive medical investigations it was not possible to find a cause for the illness other than an occupational one.

UNDERGROUND EXPLOSIVES

Tests have been carried out to determine the suitability, from the point of view of health, of ammonium nitrate as an explosive to be used underground.

The ammonium nitrate used consisted of small porous " prills ", to which was gradually added 5·8 per cent. by weight of dieseline during the mix. For firing, the face was bored out in the usual way, the first face having 88 holes, the second 78. The holes were then charged with a primer of normal explosive. Ammonium nitrate was subsequently blown in by venturi from two small hand-held hoppers through plastic tubes. In the first face 20 of the 88 holes were charged with the normal explosive, the remainder with 450 pounds of the ammonium nitrate-dieseline mixture. The next day, only the bottom 7 lifter holes were charged with the conventional explosive, 690 pounds of ammonium nitrate being used in the remainder.

The use of this explosive in the two firings investigated did not produce conditions at the face any worse than those present when conventional explosives were used exclusively. On the contrary, some improvement was achieved by the virtual elimination of carbon monoxide.

A visible red-brown fume, no doubt containing nitrous fumes in relatively high concentrations, was produced by each firing. As the holes were not stemmed, it is possible that some of this fume was due to incomplete combustion of ammonium nitrate blown out of the holes. The results of our tests are shown in Table 5.

WELDING

Breathing zone concentration inside the welders helmet of total fume, zinc, lead, chromium, manganese and aldehydes were determined whils twelding in confined spaces on surfaces painted with the following paints: Hibbin, Hibbin-Zinc Chromate, Damboline and Weldarite. The rods used were Murex Vodex and Lincoln Jetweld 47. Welding on bare steel was also carried out as a control. From the results obtained it was apparent that there was not any great difference between the various paints when the local exhaust system was used.

Mainly as a result of requests from Trade Unions, safety evaluation tests have also been carried out whilst welding with several types of rods, to determine their safety. Apart from those mentioned above we have investigated the low hydrogen rod EMF Ferrocraft 61-6, Ferrocraft 21, and Lincoln Jetweld No. 2.

TABLE V

Time After Firing	Ammonium Nitrate-Dieseline						Duct from Face		Conventional Explosive				Air Duct from Face	
	Test 1			Test 2					Test 1		Test 2			
	Nitrous Fumes		Carbon Monoxide	Nitrous Fumes		Carbon Monoxide	1	2	Nitrous Fumes	Carbon Monoxide	Nitrous Fumes	Carbon Monoxide	1	2
	DSIR	Kittagawa		DSIR	Kittagawa									
3	....	....	....	....	....	....	110 ft. (42,000 cfm)	90 ft. (42,000 cfm)	25 ppm	Over 1,000 ppm	....	....	130 ft. (19,000 cfm)	30 ft. (42,000 cfm)
4	....	....	....	3 ppm	7 ppm	Nil	....	....	....	....	Nil found	....	....	....
7	12 ppm	....	Under 10 ppm	....	....	....	....	....	13 ppm	....	....	....	....	....
9	....	....	....	14 ppm	35 ppm	Nil	....	....	....	700 ppm	....	....	....	....
13	3-4 ppm	7 ppm	Under 10 ppm	....	....	....	....	....	....	180 ppm	....	....	....	....
14	....	....	....	2 ppm	....	....	....	....	8 ppm	....	....	....	....	....
25	1-2 ppm	....	Nil	....	....	Nil	....	....	....	....	....	....	....	....

HUMAN ENGINEERING

The Man/Machine Relationship

Because of the fundamental importance and need to design machines and processes to match the anatomical, physiological and psychological abilities of the operators, during the year the Division has again visited many factories to discuss this subject with executives and their technical staff in addition to representatives of Trade Unions.

Liaison has been established with interested groups such as the Industrial Design Council of Australia, the Standards Association, and professional associations such as the Safety Engineering Society of Australia. Discussions have taken place as to the need for, and possible terms of reference, a S.A.A. Human Factors Advisory Committee.

The Division's human engineering data sheets have met with marked success; these contain specific dimensional data for typical work situations and other human factors information for designers, safety and personnel people in industry.

During the year a comprehensive seating survey was completed and a paper published in *Australian Factory*, November, 1962. In this, many of the seating problems encountered, not only in our factories but also on our farms, are discussed in detail.

A book, *Human Factors in Industrial Strains*, essentially a summary of Mr. Peres' investigations during the last few years, has been accepted for publication by a Sydney organisation.

Occupational Climatology and Human Physiological Responses

An announcement was made in the last annual report of the appointment of a scientist to study the industrial problems of heat and ventilation and the physiological responses of the operators. Much time has been spent in visiting factories in order to determine the extent and nature of such problems and in developing instrumentation and the use of predictive heat stress indices.

There is an apparent lack of information on the principles and characteristics of comfort ventilation for sedentary, semi-sedentary and light engineering workers in this State. Studies using a thermoanemometer show that low air movements are frequently the chief source of discomfort. Ten such complaints have been investigated in a variety of processes, including the stitching of chenille bedspreads, motor body spray painting, meat offal cooking, tent-making and electroplating.

Much time has been spent on studying the human physiological responses from heat and manual work. A technique has been worked out for the evaluation of body weight changes in industrial workers, from which it will be possible to obtain the evaporative water and sweat losses. A survey is now half completed, the summer half remaining, of about 50 workers in a variety of occupations, to determine sweating responses to work and heat, and the extent of dehydration. When these investigations have been completed, it is hoped to be able to give management and workers advice on salt and water requirements, and the hygiene of hot work.

In view of the importance of the heart in coping with physiological demands in muscular work and in heat, studies have been initiated into the heart rates of many workers in very hot jobs, involving high radiant heat loads. A new instrument has been designed, on similar lines to that of Muller of the Max Planck Institute Fur Arbeitsphysiologie, Germany, which is capable of transmitting a signal several hundred yards. This cardiotachometer, or pulsometer, is easily worn without discomfort by workers for a full day, and provides information on variation of the heartrate with emotional, physical and environmental factors. The instrument has satisfactorily undergone field tests and has been used during whole working shifts in several occupational situations.

From studies of this type, we will eventually be able to advise on personnel selected in hot and heavy work, on rest allowances, improvement of working environments, assessment of protective equipment, duration of exposure and rationalisation of job procedures on physiologically, rather than organisationally optimum lines, as previously.

Because of several factors, it has been possible to study a few occupations only where there is exposure to extremes of heat. For such problems it may be practical to study deep tissue temperatures by the use of small undwelling body transistorised probes.

Energy Demands of Work

It is gradually becoming apparent that the Division cannot study heat problems without studying also muscular work and its effects; the two are linked closely with respect to the physiological responses produced. Equipment has been ordered to enable the Division to study muscular work, and in particular, the oxygen demands of various task and the aerobic capacity of operatives. When this has been received the Division will be well equipped to study ergonomic problems with a work physiology basis.

Details of these activities have been made known by lectures to interested parties, of which the most significant was the Annual N.S.W. Ind strial Safety Convention and Exhibition.

Heat Transmission of Safety Helmets

Because the N.S.W. Department of Labour received complaints that certain types of outdoor workers had refused, partially on the grounds of alleged discomfort to wear safety helmets, tests were carried out to evaluate the thermal characteristics of various types. The Division found that the internal shell temperatures of different coloured helmets varied by as much as 30°-40° F. The results of these investigations were published in the June 1962 issue of The Journal Australian Civil Engineering and Construction.

Industrial Kinesiology

The services of the demonstrator of human kinetics are now widely sought after. Requests for talks and demonstrations were received from 90 companies and in 75 of these arrangements were completed for talks and demonstrations to be given on the correct methods of manual handling.

The duration of these courses varied between one half to ten days; it is estimated that approximately 7,500 workers received tuition. A number of factories have subsequently reported a decrease in the number of their " sprain " injuries.

The techniques of correct manual handling and lifting have been developed to the point that they can be applied to all types of manual work—whether it be in sitting or standing operations, in lifting or carrying, in loading or off loading trucks, whilst pushing, pulling or shovelling, etc.

Demonstrations have been given in a wide variety of secondary industries, in coal mines, on building sites, on farms and at the work sites of the Snowy Mountains Authority. A number of factory managements have put their whole work force through a course.

Whenever possible, where potential strain situations are found to exist suggestions are made to management and men concerning alterations to job procedures.

Throughout the year job instruction courses have been arranged for several large organisations such as the P.M.G. Department, and Australian Iron and Steel Pty. Ltd., Port Kembla. Follow up visits show that in most instances these trained job instructors are carrying out their new responsibilities quite well.

A number of requests from interstate companies have been received; in order to try and meet these, a Job Instructors Course is being organised in Sydney and through the courtesy of the factory management, interstate delegates will also be invited to attend.

Papers on the principles of kinetic manual handling have been published in several journals; this publicity has been aimed not only at the " man on the job " but also at Senior and Mid Management. Discussions have taken place with representatives of the Australian Stevedoring Authority so as to produce several posters for distribution on the Waterfront.

PERSONAL PROTECTIVE DEVICES

Respirators

The Division is now able to carry out the following tests:—

> Canisters and cartridges, flow resistance tests, chemical absorbance tests against gases of " limited " toxicity; masks and respirators, value leakage tests, flow resistance tests, performance tests against gases and vapours; air supplied hoods and respirators, flow and performance tests; open circuit and oxygen self-contained breathing apparatus, performance tests.

It is considered that this extension of the Division's activities is most valuable as it enables more specific advice than hitherto to be given. In addition, " tests " are carried out on behalf of the N.S.W. Department of Labour in connection with their " approval scheme "; two lead discing hoods, one chemical and two general purpose hoods have been so examined. None was found to conform completely to the tentative Australian Standard Specification for Respiratory Devices. The two models purporting to be suitable for use against silicosis and in fumigation work not only had a grossly inadequate air supply but were so poorly designed that use in the recommended work situations would have been very hazardous for the wearer. Representations made by the N.S.W. Department of Labour as a result of these tests, have led the manufacturer to withdraw a misleading advertising pamphlet and to undertake redesign of the hoods.

During the year an Australian made agricultural respirator cartridge was examined for its efficiency against insecticides. These trials involved the use of cabbage aphids as a bioassay method of detecting cartridge breakdown. The findings were as follows:—

TABLE VI

Insecticide used	Concentration	Duration of test	Rate of Spraying	Effect on Aphids
Folidol (50 per cent. parathion)	1 Fluid oz./4 gallons of water	10 mins.	1 stroke per 30 seconds ..	Nil.
Phosdrin 100 per cent. ..	1 Fluid oz./100 gallons ..	10 mins.	1 stroke per 30 seconds ..	Nil.
Gusathion (25 per cent. wettable powder).	4 lb./100 gallons	10 mins.	1 stroke per 30 seconds ..	Nil.
Meta-Systox "I" (25 per cent.)	16 Fluid oz./100 gallons ..	10 mins.	1 stroke per 30 seconds ..	Nil.

The following tests were made on one pair of cartridges intermittently over a period of 11 days:—

TABLE VIA

Day No.	Length of time of Test	Rate of Spraying	Concentration of Parathion in effluent air (milligrams/c.m.)	Effect on Aphids
Day 1	30 mins. ..	1 stroke/30 secs.	....	Nil.
Day 4	30 mins. ..	1 stroke/30 secs.	....	Nil.
Day 4	30 mins. ..	1 stroke/30 secs.	0·022	Nil.
Day 4	30 mins. ..	1 stroke/10 secs.	0·020	Nil.
Day 4	20 mins. ..	1 stroke/10 secs.	0·035	Some aphids effected.
Day 11	30 mins. ..	1 stroke/10 secs.	Not analysed	....
Day 11	60 mins. ..	1 stroke/10 secs.	0·044	95 per cent. of aphids effected, 100 per cent. dead in 12 hours.

The locally made cartridge was thus shown to be suitable for use in agricultural work.

Tolylene-di-isocyanate is a chemical used in the manufacture of polyurethane foams and surface coatings. As complaints were repeatedly received that men working with this compound were experiencing toxic respiratory symptoms despite wearing apparently suitable respirators, tests were carried out to assess the efficiency of three organic vapour cartridges and two makes of canisters. The following results were obtained:—(Table VII).

TABLE VII

	Test Concentration (p.p.m.) of T.D.I.	p.p.m. of T.D.I. in Air Passing Device
Organic vapour cartridge, Type A	7	5·8
Organic vapour cartridge, Type B	7	3·5
Organic vapour cartridge, Type C	7	4·1
English made Canister	24	0·9
	16	0·4
	9	0·015
American made Canister	24	4·5
	8	0·012
	3	0·015

As the recommended maximum allowable concentration for T.D.I. is only 0·02 p.p.m., the Division felt justified in urging the use of air supplied respirators as a protection against this chemical.

Welding

The testing of welding filters submitted by a number of the leading suppliers to ascertain to what extent their visual and ultra violet light transmissions conformed to the Australian Standard Specification, as required by the N.S.W. Welding Regulations, gave the following results:—(Table VIII).

TABLE VIII

Description of Test	No. of Filters	Percentage of Total No.
		(per cent.)
Filters Tested	105	..
Filters correctly graded for visual transmission..	82	78
Filters incorrectly graded by one Shade Number	23	22
Filters incorrectly graded by more than one Shade Number	Nil	0
Filters with transmissions in specification at wavelength of 313 millimicrons ..	105	100
Filters with transmissions in specification at wavelength of 334 millimicrons ..	105	100
Filters with transmissions in specification at wavelength of 365 millimicrons ..	105	100
Filters with more than 20 per cent. variation in uniformity of transmission ..	Nil	0
Pairs of goggles tested	32	..
Pairs of filters with more than 20 per cent. difference in visual transmission ..	3	9·4

The N.S.W. regulations require the provision of "approved" barrier creams to prevent possible skin damage due to ultra violet light radiations. Tests were made on samples of four specially formulated creams to measure their efficiency. It was found that a 0·011 inch film of each would prevent at least 97 per cent. of the rays of harmful wavelength emitted in welding from reaching the skin of the operator.

Gloves

A survey, which will continue into next year, has been commenced to determine the suitability of various types of gloves for protection when using toxic insecticides. The use of a bioassay involving mosquito larvae is being examined for its practicability.

Detector Tubes

Tests have been carried out to determine the field practicability of the American, English and Japanese detector tubes recommended for use in the presence of nitrogen dioxide, phosphine, benzine and toluene.

Detector tubes are comparatively inexpensive to buy and when first introduced many thought that they would make a major safety contribution. It is now known that they, like many other types of scientific equipment, have certain limitations. The Division recommends that users of these tubes make detailed enquiries into their accuracy before using them, especially in situations where there may be a potential danger to health.

AGRICULTURAL HEALTH

In the 1961 Annual Report reference was made to the appointment of Mr. G. Simpson, his duties being to develop and extend the Department's Agricultural Health Programme. The contents of Table II show that visits have been made to farms, orchards, nurseries and market gardens. Most of these visits have been in the Metropolitan, Batlow and Gundagai areas. The help extended by the N.S.W. Department of Agriculture has been invaluable and considerably facilitated his task.

Arrangements have been made for the Medical Officers of Health located away from the Metropolitan area, to work closely with officers of the Department of Agriculture on matters affecting their occupational health.

Analytical methods for the micro determination of many of the commonly used pesticides have been evolved and tried out.

PESTICIDES

It is now over twenty years since the organic insecticides were introduced into agriculture, a sufficient time surely for their hazards to be generally appreciated. That such general realisation of their toxicity does not exist is evidenced by the poisonings which still occur.

Although warnings are printed on the labels of the containers it is still found that many users only read the directions for use and ignore those sections relating to possible dangers to health. From a survey carried out, it is clear that of those who read the safety precautions, the standard of some of their spraying techniques is such that they apparently believe themselves to be "immune from danger". Others considered that they were not "allergic" to toxic compounds. These types of reasoning are not only fatuous but also highly dangerous.

The most unusual clinical case seen during the year was that of a man who had consulted his doctor about a skin rash. The doctor, thinking that the rash may have been caused by spraying with Phosdrin, referred him to a consultant who carried out a patch test with this insecticide. Nine hours later the patient became seriously ill with vomiting, blurred vision and generalised muscular twitching. He was admitted to hospital and given P.A.M. by his own doctor and his symptoms commenced to subside. One week later his cholinesterase test showed only 28 per cent. activity. Recovery of cholinesterase activity was slow and only reached 80 per cent. six weeks later.

During the year there has been an increased usage of organic phosphate and carbamate compounds. Because many still spray or handle them either in a careless manner or without the use of adequate protective clothing, the Division has written several short educational articles and given many " lectures " to interested groups at meetings organised by their respective associations.

A poster illustrating the safety precautions to be taken whilst spraying was produced and distributed.

FACTORIES FORMULATING INSECTICIDES

Forty-five factories, mainly in the Metropolitan area, were visited to determine if there were any potential hazards to the operators. All of the factories handling organic phosphates now carry out regular blood cholinesterase tests on their employees and with one exception, the standard of inplant conditions is considered satisfactory.

The exception is a factory formulating and packing a range of insecticides in moderately large but very congested premises. Several employees were found to have lowered cholinesterase values, sometimes as low as 30 per cent. During a period of some months, nine persons were removed from the process and one was hospitalised for observation. Despite the well known and proven toxicity of many of the compounds, the general attitude of management and the standard of supervision with regards to safe manufacturing practices, were unsatisfactory. The supply and use of personal protective equipment was also frequently unsatisfactory and housekeeping was of a low standard. Surface contamination by certain organic phosphates was in excess of 100 milligrams per square foot within a short time of production starting. Lower, but still high, swab concentrations were found as far as 20 to 30 feet away from the drum filler unit. Breathing zone concentrations ranging from 0·34 to 3·8 milligrammes per cubic metre of air were detected.

As a result of many visits, the inplant environment is improving and management and men are becoming more safety minded.

Cholinesterase Tests

Over 300 tests were performed either in the Division's laboratories, in factories on farms or on orchards.

We have actively encouraged hospitals located in rural areas to provide the necessary facilities to carry out this test; where necessary instruction in techniques has been given.

A survey was carried out in the Murrumbidgee Irrigation Area to see if it were possible to correlate a lowering of blood cholinesterase levels and the use of unsatisfactory personal protective clothing when spraying certain organic phosphate insecticides. Those used in the greatest quantities were Gusathion and Malathion; others used less frequently were Trithion, Phosdrin, Parathion, Metasystox and Sevin.

A diversity of " clothing " was seen, ranging from shorts only to complete waterproof suits.

Cholinesterase tests on 47 men were taken both before and at the end of the spraying season. Considering the cholinesterase levels as a whole, none were found towards the end of the spraying season approaching the symptom level.

Two men had a thirty per cent. lowering. Because of an infestation of red spider mite both had sprayed more than usual. One said he had taken " reasonable precautions " but admitted quite an amount of skin contamination. The second had sprayed with Parathion the previous evening in shorts and shirt, and had been inspecting the orchard closely for the results of the spraying immediately prior to testing.

The apparent effectiveness of the protective clothing worn was classified into four groups. For these categories the percentages of men with a greater than 10 per cent. lowering of the cholinesterase values were 6, 27, 44 and 60 respectively; these figures indicate a trend towards more absorption where less protective clothing was used.

For several reasons, it must be stressed that it is only possible to generalise on the above results; differences in spraying techniques used, the periodicity of spraying and the time interval between the last spraying and the blood test are some of the variables which must be considered and mitigate against drawing firm conclusions.

USE OF MALATHION TO TREAT BULK WHEAT

Malathion of 80 per cent. w./u. is mixed in tanks in the proportion of 20 gallons to 1,000 of water. The solution is then sprayed onto wheat moving along a belt conveyor. An impinger, without a pre-filter, was used to determine Malathion in air concentrations at the breathing zones of nearby workers. Results ranging from 0·03 to 0·22 mgs./c.m. of air were obtained. These are all well below the M.A.C. of 15 mgms.

FUMIGATION WITH METHYL BROMIDE

Three chambers have been inspected to ascertain if they comply with the requirements of Section XII of the Public Health Act 1902-1952, as amended in 1961. On initial inspections, all the installations were found to need structural modifications.

During the year 19 Halide lamps from 10 organisations were tested as required by Regulation. Five lamps were rejected as being unsuitable for use.

CURRENT PROJECTS

Investigations are taking place to determine the degree of operator safety whilst spot fumigating with small tins of ethylene dibromide and methyl bromide. Because fumigation by this method appears to be much cheaper than the older methods, it is likely that it will become popular. Tests are also being carried out to determine the effect of adding oil emulsions and wettable powders to spray mixtures from the point of view of any subsequent alteration to the size of the droplets; the effectiveness and suitability of a newly developed impervious material for protective clothing and the determination, by means of filter pads, of the degree of dermal contamination while spraying.

NOISE

Fifty-five investigations have been carried out in industries where there are high noise levels. A wide and interesting variety of problems such as noise from bone pulverising machines used in the meat industry, the use of air-operated steel gauging machines, various aluminium milling operations and the use of sticky tape slitting machines have been referred to us for evaluation. These studies were requested either by management, by insurance companies, by inspectors of the Department of Labour or by Trade Unions. There is no doubt that interest is continuing to increase in this subject.

Evaluation studies have also been made in offices, in lecture theatres, scientific laboratories and in hospitals.

In assessing the potential risk of impairment of hearing we use the criteria established, and used for many years by the Commonwealth Acoustic Laboratory. These are based on octave band sound analyses and are similar to the criteria recommended by overseas organisations such as the American Research Centre of the Sub-Committee on Noise in Industry, of the Committee of Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, Los Angeles, and the Technical Committee on Acoustics, of the International Organisation for Standardisation.

When it is considered that there is a potential risk of impairment of hearing whenever possible engineering recommendations are made in order to reduce the noise to a non-hazardous level. If it is not possible to do this, the use of ear protection is encouraged. In some cases hazards have been discussed with equipment designers and suppliers with a view to obtaining a quieter design.

Preliminary investigations on the ease and intelligibility of speech transmission through respirators have been made; work is proceeding on this subject.

Residential Noise

One hundred and fourteen visits, involving 38 factories, have been made. Measurements are usually taken at the residential boundaries at various periods of the day and night; where necessary the sources of excessive noise are determined and engineering control measures suggested to management.

It is pleasing to report that we have been consulted on three occasions to pass an opinion as to the suitability of certain areas prior to the establishment of new industries. In such instances surveys of background noise levels are made in order to provide management with technical data so that they may plan and develop their industry in such a way to prevent or minimise subsequent complaints.

Because of many closely connected and inter-related factors, it is very difficult to establish firm standards for residential noise. The International Organisation for Standardisation has suggested noise rating curves, together with corrections to be made for certain local conditions, as a means to predict likely community reactions. In conjunction with the background noise spectra, the Division is using these " curves " and has found them most useful.

OCCUPATIONAL HEALTH NURSING

During the year 92 visits were made to factories and 101 Sisters interviewed. Of these 39 were initial visits, the remainder in connection with " follow up " activities. As stated in last years' Report, the main purpose of these activities is to try and create conditions whereby the trained Sister is able to practice certain aspects of preventive medicine, in addition to her generally accepted duties connected with first aid.

The Division's advice is frequently sought on such matters as the design and equipping of new medical centres, the renovation of existing clinics, the need for and suitability of records, the duties and responsibilities of the industrial nurse and her professional relationships within organisations.

A survey of the St. Leonards area was carried out to see if it might be a suitable location for a group clinic.

In order to develop an informed public opinion the Adviser in Industrial Nursing has held a number of meetings with various people, groups and professional associations interested in this aspect of our activities. It is pleasing to record that for the first time it was possible to organise a most successful joint meeting of Industrial Medical Officers and Nurses; the four papers on problems of mutual interest were followed by a lively discussion.

As in previous years we have continued our educational programme aimed at the Sisters working in factories, shops and offices. Three refresher sessions, each lasting an afternoon and evening, have been given in addition to one Group Study Course of six days duration. These activities have repeatedly been the subject of favourable comment and the Division believes that they play an important role in developing wider activities for the Industrial Nurse, thereby increasing her professional status within her organisation.

The Adviser, Industrial Nursing attended the Royal Australian Nursing Federation Biennial Conference. She was also a member of the study group which presented a paper on " How do you Organise a Safety Programme? " at the 1962 N.S.W. Safety Convention and Exhibition.

It is always difficult to evaluate and assess to what extent attitudes have been changed as a result of particular activities. Nevertheless, there are reasons to believe that this service is playing an important part in favourably influencing the thinking of Management, men and members of the profession. Only in this way will further substantial and lasting gains be made.

RADIATION

The use of radioisotopes continues to increase, particularly in the medical and industrial fields, as does the use of X-rays in industry for radiography and level and thickness control. The resultant investigations are made by the staff of the Radiation Branch.

Licensing

Table IX shows the distribution amongst various categories of the licenses current at the end of 1962, compared with those in force at the end of 1961.

TABLE IX

Category	Total Licenses as at 31st December, 1961	Total Licenses as at 31st December, 1962	Rejected Applications
Medical	181	212	1
Hospital	36	43	0
Research	79	122	0
Industrial	66	122	1
Chiropractic	18	29	0
Total	380	528	2

It will be seen that the number of licenses in force has increased by over one-third during the year.

Licensing Procedures

There have been three important modifications of our licensing procedures during the year.

Firstly, a series of decisions by the Radiological Advisory Council, extending over some years, has resulted in the interpretation that only the head of the radiological branch or department of each hospital need be licensed, and that, inside the hospital, other persons can be considered as working under his direction and supervision. Obviously, these other persons would need to be licensed if working in a private capacity (and therefore without supervision) outside the hospital.

Secondly, in order to fit in with procedures adopted by the Australian Atomic Energy Commission limiting release of radioisotopes to licensed persons only, we have adopted a method whereby the Radiological Advisory Council recommends to the Minister that a license be granted " subject to subsequent inspection ". Previously, even after inspection of his facilities, it had been customary to await receipt of an applicant's radioisotopes, then to re-inspect and recommend the issue of a license. The new procedure is working satisfactorily.

Thirdly, the following method of speeding up the issue of urgently wanted licenses has been adopted. In cases where the techniques of using radioisotopes or X-rays machines are well established (*e.g.*, thickness gauges, laboratory work requiring normal quantities of radioisotopes, etc.), the Radiation Branch reports to the Chairman of the Radiological Advisory Council, who then recommends to the Minister whether or not a license be granted. This action is subsequently submitted to the Council for its approval and ratification. Such a procedure is rendered necessary by the fact that the Council meets only once a month, and if it were to wait for consideration at a monthly meeting, an urgent application could take up to four weeks before being finalised.

Field Inspections During Year

Table X sets out the number of inspections, in various categories, carried out by Radiation Branch. These are compared with the numbers in the same categories in the previous year. As stated earlier, the fall in total inspections can be ascribed to the absence of the Officer-in-Charge overseas, and the resulting increase in administrative work to the other two scientific officers, who in normal times carry out the bulk of these inspections.

Table X

Category	Number of Visits	
	1961	1962
Medical and Dental	56	39
Hospital	86	44
Research	54	30
Industrial	59	107
Miscellaneous	56	0
Total	311	220

From this table can be seen the great expansion occurring in the industrial use of radioisotopes, which in 1962 occupied 49 per cent. of total visits, compared with only 19 per cent. in 1961.

Transportation of Sources

Clause 8 of Regulation 11 limits the amount of a radioactive substance that may be transported without prior approval of the Council. Briefly, for a sealed source, the limit in one container is 50 curies irrespective of the type of radioisotope; for unsealed sources, it varies with the radiological toxicity. Thus for high-toxicity substances like radium-226 and strontium-90, the limit is 200 millicuries, but for low-toxicity ones like carbon-14 and tritium, it is 5 curies. A number of such movements were made during the year. The most important of these were the transportation of approximately 100 curies of cobalt-60 from the Australian Atomic Energy Commission Research Establishment to the Division of Plant Industry in Canberra, and 5,000 curies of cobalt-60 from the same place to Japan.

Codes of Practice

To promote safety in the use of radioisotopes and X-rays in industry a " Code of Practice for Industrial Radiography " has been drawn up, and is being printed for guidance of people employed in this field. The Code is to be regarded as supplementary to the Radioactive Substances Act and Regulations, and it is hoped that its implementation will lead to reduced radiation dosage and reduced risk of accidental exposure to radiation.

Notes for guidance of persons and organisations engaged in transport of radioactive substances have also been drawn up and are being printed for distribution.

Attendance at Interstate Conference

An officer of the Branch attended the second Annual Meeting of Physics in Medicine and Biology in Melbourne from 5th to 10th October.

During the course of this conference a number of talks, on matters relating to the use and measurement of radiation in medicine, were attended. Also visits were made to the Alfred Hospital, the Commonwealth X-Ray and Radium Laboratory, the Cancer Institute, the Institute of Applied Science and Gamma Sterilization Pty. Ltd. The conference terminated with a symposium on Acute Radiation Injury, held in conjunction with the Australian College of Radiologists.

Use of Luminous Substances

A progressive development in the luminising industry has been the introduction of tritium-activated paints to replace the previously used radium- and thorium-activated materials. This radioactive isotope of hydrogen possesses the advantage that it emits only weak beta particles, sufficiently energetic to activate the fluorescent paint, but not energetic enough to penetrate the cover glass. Unlike radium, it does not emit penetrating gamma rays. External radiation dosage to persons is therefore minimal. Also, the hazard resulting from accidental ingestion or inhalation is much less than that from radium- or mesothorium-activated paints.

" Gadgets "

During the year, consideration was given to various radioactive devices used in industry and in the home. These included such things as brushes containing polonium-210 for the illumination of static and removal of dust; luminous signs, markers and buttons activated by krypton-85 and tritium gas; air-ionising devices, using strontium-90, for alleged therapeutic purposes.

Where such devices have been found to be non-hazardous and to fulfil a useful purpose, licenses for bona fide users have been recommended. Otherwise the general use of radioactive " gadgets " whose functions can simply be fulfilled by other means has not been encouraged.

Unlicensed Radioactive Devices

Two groups of radioactive device, which were initially introduced into N.S.W. without the appropriate licenses, were investigated during the year.

The first consisted of a number of " Staticmaster " Dust Brushes, which contain diverse quantities of short-lived, alpha-emitting polonium-210. They are used in the photographic and allied industries to remove dust particles from lenses, films, plates, etc. Originally, they were impounded by the Customs Department, but approved users may now obtain them on license from licensed distributing firms.

The other case involved a number of Gas Chromatography units which use a radioisotope (either Radium-D (lead-210) or strontium-90) in the detector section to ionize the gas preparatory to identifying its constituents. These units, like the " Staticmaster " Brushes, mentioned above, had entered the country without the Customs Department being aware of their radioactive content. Again, every unit has been traced, and the various users have applied for, and been issued with, licenses.

Bad Industrial Practices

Industrial radiography continues to be the most serious source of exposure for radiation workers, and a number of accidental exposures resulting from bad practice have occurred. Fortunately, no serious overdoses have resulted.

In one instance, an X-ray examination of a large boiler was commenced with a workman inside the boiler. In another, a radiation worker was observed to handle a source by a short length of string. In yet a third instance, a workman picked up and handled for some seconds a radioactive source which had become detached from its handling rod.

Steps have been taken to reduce the possibility of further accidental exposures of this nature.

Tracer Studies

The Isotopes Section of the Australian Atomic Energy Commission runs an advisory service to industrial and other organisations interested in the use of radioisotopes for tracing. Its officers are licensed under the New South Wales Radioactive Substances Act to possess and use a wide range of radioactive isotopes for scientific and research purposes. Close liaison is maintained with the Radiation Branch, which is notified beforehand of each test. On some occasions, officers of the Branch have been present during the tracing. The annual number of tests has been increasing since its inception, and, during 1962 about 25 separate projects (each involving several tests) were undertaken in the area under our jurisdiction.

Film Badge Service

There are now 421 organisations and a total of about 2,000 persons receiving films, whereas at the end of 1961, the corresponding numbers were 374 and about 1,500. The distribution amongst the various types of organisations is as follows:—

2	veterinary surgeons;
15	scientific organisations or departments;
16	chiropractors;
36	industrial firms or departments;
81	private medical practitioners;
129	dentists;
141	hospital departments.

All the dentists follow a three-monthly schedule while most other organisations change their films on a monthly basis, and are only changed to the three-monthly schedule if they consistently show less than 20 per cent. of the maximum permitted dosage. If the dosages recorded are less than about 5 per cent. of the maximum permitted rate, the wearer is ultimately placed on a schedule where he is monitored once a year over a period of three months.

The method of reporting excessive doses to the Radiological Advisory Council has now been changed so that a person is only mentioned if he receives in excess of 3 rem for a period of 13 consecutive weeks or 5 rem per year. These values are our legal standards. On this basis, only one person has received in excess of 5 R and he was taken off radiation work for the remainder of the year.

Typical Uses of Radioisotopes in Tracer Studies During Year

Hydrogen-3 (Tritium):

Checking water leakage in heat exchanger.

Sodium-24:

Determining point of leakage of underground pipes, time of mixing of solid constituents, locating drain junctions.

Argon-41:

Checking gas leakage in a heat exchanger.

Cobalt-60:

Gauging of levels in tanks, locating drain blockages, locating ends of pipes, checking the efficacy of radiation shielding.

Bromine-82:

Determining points of leakage in a town gas supply.

Krypton-85:

Determining stack flows and underground air flows (coal mining), detecting leaks in a reboiler.

Strontium-90:

Eliminating static in certain industrial processes.

Gold-198:

Determining time of mixing of solid constituents, measuring furnace charges, determining oil interfaces, measuring sewage flows, tracing ash dumped at sea.

Iodine-131:

Determining the time of mixing of solid constituents.

Overseas Visit of Officer-in-Charge

The visit of the Officer-in-Charge of the Radiation Branch to the United Kingdom and the United States on a World Health Organisation Fellowship has been mentioned elsewhere. In both countries, he visited hospitals, factories, research establishments and governmental authorities administering the various acts and regulations concerned with ionising radiations. Undoubtedly the greatest benefit will arise from his stays with the State Health and Labour departments in the United States, which has a Federal-State relationship very similar to Australia's.

Mr. Whaite found that in this country, our type of work is developing along very similar lines to the Americans'. He will not be recommending any radical changes in procedure, but the adoption of different techniques in some branches of our work, and the extension of our work in certain directions.

ATMOSPHERIC POLLUTION

This year was a very eventful one as far as atmospheric pollution was concerned and the subject received a good deal of public attention. The stimulus for this was undoubtedly the proclamation of the New South Wales Clean Air Act in May, 1962. Because of the tremendous public interest in the Act it had been previously decided that a conference would be held and accordingly Australia's first Clean Air Conference took place in February, 1962.

Following the proclamation of the Act the Air Pollution Advisory Committee was constituted and the first meeting was held in July. This meant that the task, given to the Committee under the Act, of drafting regulations could begin. Despite many complexities considerable progress had been made by the end of the year.

Another step forward towards air pollution control this year was the establishment of an Air Pollution Control Branch within the Division of Occupational Health. The general purpose of the new Branch will be to implement the Clean Air Act. In every possible case it is the Department's intention that the operation of the legislation should aim towards obtaining co-operation from industry and that litigation should only be considered after all attempts to achieve this had failed. For this reason, the Department aims to establish the Air Pollution Control Branch as an engineering organisation with personnel of sufficient training and experience to understand the technical problems of air pollution control. By the end of 1962 some staff had been appointed to the Branch and plans were in progress towards the establishment of the complete organisation as previously mentioned.

The work of measuring air pollution and investigating individual complaints has been contrived during 1962. As a result of the proclamation of the Act the volume of complaints and requests for assistance increased very considerably. Further details of the various aspects of air pollution matters are given in the following sections.

Clean Air Act and Regulations

The main activity of the Air Pollution Advisory Committee since its inception has been concerned with the drafting of regulations and for this purpose two sub-committees were formed. One of the sub-committees, which had the responsibility of drafting regulations on licensing procedures had completed a draft before the end of the year. This was approved with minor modifications by the Advisory Committee and submitted to the Under Secretary.

The second sub-committee had the much more complex task of drawing up standards of emission limits and equipment for inclusion in the regulations. In keeping with the assurances made by the Minister these regulations are being discussed with representatives of industries likely to be affected which necessitates a considerable number of meetings. Consequently it was not possible to complete a draft set of these regulations before the end of the year although it is expected that the first set, which will enable the Act to come into effective operation, early in 1963.

Air Pollution Advisory Committee

The Air Pollution Advisory Committee was formed after the proclamation of the Clean Air Act and had its initial meeting on the 21st July, 1962. At the first meeting the Minister for Health welcomed the Committee and expressed his personal thanks to the members for their co-operation in assisting to find a solution for the difficult problem of air pollution.

Accounts of the Clean Air Act and its history given in past reports have stressed repeatedly that air pollution control was a complex matter which called primarily for the services of experts of many disciplines but particularly those with an engineering background. The Department was therefore most fortunate that the Air Pollution Advisory Committee when formed contained a large proportion not only of such experts but also men of vast industrial experience. From the initial meeting the Committee has attacked the problem of bringing the Act into operation with a sense of dedication and with a total disregard for personal convenience. It was a matter of considerable gratification that men with heavy responsibilities in their own positions were prepared to devote so much of their time to the assistance of the Department.

The membership of the original Committee was as follows:—

Dr. C. J. Cummins (Chairman), Director-General of Public Health.
Professor R. T. Fowler, representing the University of New South Wales.
Dr. G. C. Smith, Director, representing the University of Sydney.
Mr. M. Hunt, Chief Combustion Engineer, Australian Iron and Steel Limited, Wollongong.
Mr. C. Hopkins, Developmental Manager, Imperial Chemical Industries of Australia and New Zealand Limited.
Mr. F. H. Hynes, Principal Gas Engineer, Department of Local Government.
Mr. J. H. Standish, General Manager, Sulphide Corporation Pty. Ltd., representing the Chamber of Manufacturers.
Mr. J. P. Ducker, Labor Council of New South Wales.
Mr. A. McLagan, Labor Council of New South Wales.
Mr. A. R. Browne, Metal Trades Employers' Association.
Dr. A. Bell, Director, Division of Occupational Health.
Dr. J. L. Sullivan, Division of Occupational Health.

Air Pollution Control Branch

In June, approval was given for the formation of an Air Pollution Control Branch within the Division of Occupational Health. On his return from a visit to the United States, Dr. J. L. Sullivan, who formerly held the position of Chief Scientific Officer of the Division was appointed as head of the new Branch with the title of Air Pollution Control Engineer. Approval was also given for the appointment of a chemical engineer and a fuel engineer which were regarded as two senior positions of the Branch. At the end of the year appointments had been made for the two positions although the successful applicants had not yet actually joined the Department. With the exception of a scientific officer who joined the Branch near the end of the year as a replacement other appointments were for junior staff only.

The three key staff now appointed will form the nucleus of the larger engineering and scientific organisation required before the Air Pollution Control Branch can become fully operative. At the end of 1962 plans for the further development of the Branch were being considered.

Clean Air Conference

Under the joint sponsorship of the New South Wales Department of Public Health and the University of New South Wales, Australia's first conference to be devoted to the discussion of the problem of air pollution was held in the University of New South Wales on February 19th, 20th and 21st, 1962. Similarly to most other developed countries throughout the world, Australia, in its larger cities and industrial centres, has begun to be affected by increasing atmospheric contamination and most States have introduced or are considering the introduction of more effective control legislation. In New South Wales a comprehensive Clean Air Act was adopted by Parliament in 1961 and it was considered that this created a suitable occasion for a conference. Approximately, 300 representatives from Governments, Municipal Authorities, Universities and Industries from all Australian States and New Zealand attended. In addition, two invited overseas guests, Mr. W. A. Damon of Great Britain and Dr. Morris Katz of Canada were at the Conference and presented two papers each.

The Hon. W. F. Sheahan, Q.C., LL.B., M.L.A., Minister for Health, opened the Conference and in his address drew attention to the need for the co-operation of all sections of the community in facing air pollution. He stressed that research and education shared at least equal importance with legislation in any control programme. The first day of the Conference was devoted to the subject of legislative and administrative procedures and one paper each was presented from Australia, Great Britain, Canada and the United States. During the remaining two days, papers relating to the measurement, effects and control of pollution were presented.

In view of its recent adoption, details of the legislative and technical provisions of the New South Wales Clean Air Act given in a paper by Dr. J. L. Sullivan, were of topical interest to most of the audience, particularly to the large number representing industries likely to be most affected by the new measures. The audience was told that the new Act was based largely upon a synthesis of the British Alkali and Clean Air Acts and allowed for a system of licensing and supervision by technical trained officers of the New South Wales Department of Public Health. It was pointed out that, through the license fees which in some cases could be as much as £500, it was hoped that it would be possible for about half the cost of establishing and equipping the new scientific control organisation to be provided. In this way, it was expected that an expert group, capable of providing technical assistance to industry, rather than acting as a purely inspectorial body, could be formed.

The description of air pollution problems and legislation in Great Britain by Mr. Damon and in Canada by Dr. Katz were also received with great interest. Mr. Damon outlined the long history of the attempts to control smoke and other air pollution in Britain and gave details of the Clean Air Act of 1956. He described many of the undesirable effects of air pollution including the many deaths which have resulted under extreme circumstances but he also pointed out that some pollution is an inevitable consequence of modern industrial development. Amplifying this he said, " Much as we should like to have perfectly clean air to breathe, we have to remember that we can't live on clean air alone—we must have some bread and butter as well—and our industries are the way to that bread and butter and, if we are lucky, a little jam to go with it ". However, he expressed the strong view that the same energies devoted to the maintenance of the purity of food and water should be devoted to the air we breathe. In this regard, Mr. Damon complimented the New South Wales Government for taking action to control air pollution at a stage when many of the remedies could be applied relatively painlessly. Dr. Katz described, in broad detail, some of the important air pollution problems in Canada including those which had reached international significance such as the Trail Smelter in British Columbia and smoke in the Detroit-Windsor area. The former of these was a subject of considerable controversy early in the present century when fumes from the smelting plant in Canada were causing large-scale damage to farm crops in the United States. The outline of the problem and the methods used to solve it, described by Dr. Katz were of more than usual interest to many people at the Conference, especially as pollution from smelting plants has caused difficulties in New South Wales.

For the remaining two days of the Clean Air Conference, technical contributions from various Australian States were presented as well as additional contributions by Mr. Damon and Dr. Katz. As the time for presentation of contributions was purposely limited, ample discussion periods were allowed and these added substantially to the value of the Conference. Though it is impossible to list the actual titles of papers here, it would be accurate to say that there were very few sections of the whole range of air pollution knowledge not covered. As well as those discussed, two additional papers were received from the United States and will be included in the final volume of the Proceedings.

Outside of the actual presentation of papers there were other facets of the Conference which will be remembered. An exhibition of equipment for the measurement and control of air pollution in the laboratories of the Department of Fuel Technology attracted a great deal of interest. At the end of the first day's lectures, a film entitled " Report on Smog ", which the organisers of the Conference had been able to borrow from the United States Public Health Service, was shown. This presented an up-to-date account of the nature of the problem as it exists in Los Angeles to which Sydney bears some similarity and hence was of more than usual pertinence. Many very complimentary remarks were made about the quality of the film. Some of the pleasanter moments of the three days occurred during the social arrangements including an Official Dinner held on the evening of the opening day.

After the Conference the papers and discussion were printed and bound in two attractive volumes and all persons who were in attendance received a set. Many other persons and organisations not actually at the Conference purchased copies of the Proceedings.

Monitoring Stations

The routine measurement of dust-fall, smoke density and sulphur dioxide which has now been conducted since late 1953 was continued during 1962. As in other recent years more Councils have requested that their areas be included in the monitoring programme and the number of sites, especially for deposit gauges, increased again during 1962. However, some compensation for the increased number of stations was gained by withdrawing several special purpose gauges such as those in the vicinity of sources under investigation.

One of the notable features of the results of deposit gauge measurements since the work started has been the steady reduction which has taken place in Sydney city area. This was referred to in the 1959 Annual Report where a graphical representation of the data was given. In the two years following the downward trend halted and the average city reading remained practically the same but a further drop was apparent in the measurements taken in 1962. The insoluble solids results taken from the average of ten stations within two miles of Martin Place are shown in Table XI.

TABLE XI—MEAN DUST-FALL VALUES IN THE SYDNEY CITY AREA

1954	1955	1956	1957	1958	1959	1960	1961	1962
22·6	23·6	22·7	21·4	20·2	18·2	18·3	19·1	15·8

Outside of the inner city area the dust-fall rate at most test stations was approximately the same as in previous years. Generally on the southern and near northern sides of the Parramatta River the rate is almost uniformly within the range of 8-12 tons per square mile while the northern suburbs generally it is about half that amount. Higher results than these two ranges occur are caused principally by specific sources affecting localised areas. Examples are Botany and Rozelle.

The mean values of six stations which have operated continuously in the Newcastle area show a significant reduction in dust-fall compared to 1961. This continues a trend which has been apparent since 1958, but for five years prior to this there had been a rise in the dust-fall rate for the six stations was almost identical to the 1954 result after having climbed to more than 50 per cent. higher in the peak year which was 1957. The reasons for the present downward trend has not yet been fully established but the results are being analysed in relation to developments in Newcastle.

Further analysis is also being carried out on the results of dust-fall readings at Port Kembla, mainly to try and determine the cause for higher readings in the Primbee area. These rose sharply during 1962 compared to previous years. As the results were higher than certain points nearer to the steelworks it would appear that there is a distinct possibility that dust is being transported by winds to Primbee from Tallawarra Power Station some five miles to the south-west. Consequently, the results are being correlated with wind direction data which is available from the Port Kembla signal station.

There were no appreciable changes in the levels of smoke and sulphur dioxide in any of the three cities in 1962 compared to the previous year. As reported previously, sulphur dioxide concentrations generally are low but smoke densities which occur in Sydney and Newcastle are high except when compared with most British cities. There are few cities in the United States where concentrations of smoke are reported to be as heavy as those which occur in Sydney or Newcastle. A description of COH unit which is used for the expression of smoke density in these reports was given in the report for 1958.

The routine measurement of oxidant which was first reported for Sydney in the 1960 Annual Report has been discontinued for the present time. When such tests are resumed continuous recorders will be used rather than the daily manual instruments used in the past. It was pointed out in a paper by Dr. Sullivan that there are climatological and topographical analogies between Sydney and Los Angeles and that there were signs in the former of an incipient photo-chemical oxidant type air pollution problem similar to that experienced in much greater degree by the latter. Professor White, of Sydney University, also reported that damage, typical of oxidant type pollution, had occurred to plants in home gardens in Sydney. Consequently, although this type of work is not of pressing importance it is nonetheless not being neglected. The tabulated results of deposited matter, smoke and sulphur dioxide are given in Tables XII, XIII and XIV.

Future of the Monitoring Programme

In the past the monitoring of air pollution has been done by means of deposit gauges for dust-fall and a combined daily smoke density and volumetric sulphur dioxide apparatus. There is nothing more useful than the deposit gauge for its purpose but it is intended that as far as possible a gradual change to automatic instruments will be made for the other contaminants. With the smoke stain instruments currently on order the Branch will have to provide a nucleus in the Sydney city area unless the demand for the investigation of specific complaints becomes too pressing. This will be avoided if possible as the provision of background or comparative information is an essential part of the evaluation of specific problems. At present there are too many particular sulphur dioxide problems to allow the use of one of the Branch's continuous recorders for monitoring but it is hoped that the next one obtained will be allocated to this use.

Specific Air Pollution Investigations

As in previous years officers of the Division of Occupational Health have investigated many specific air pollution problems and assisted by finding a solution for a number of them. In most cases after a complaint is referred to the Department the first step taken is to interview the complainant or complainants to ascertain the nature of the problem. Following this instruments may be established in the area to confirm whether a nuisance exists or not. In this connection some problems which appear to implicate a specific source are actually caused by general pollution which tends to spread homogeneously over large areas. Thus the investigation, in many instances, may necessitate an integration of results of tests for a specific problem and those obtained from the monitoring stations in the manner already described.

The approach to an investigation is governed by its nature. One of the commonest types of complaint received is the result of dust, ash or soot-fall which is almost invariably described as smoke by the average householder. It may well be that a chimney nearby does smoke heavily, but in some cases the problem causing the complaint will continue after the smoke has been reduced to a satisfactory level. In the past thought on this type of complaint has been pre-occupied with the smoke aspect with the result that most problems were not satisfactorily resolved.

After it has been established that a dust-fall problem is involved the present approach usually is to install deposit gauges in the vicinity of the suspected sources. The results of these can then be compared with the background for the area. In certain cases petri dishes may be used. These are smaller and can be used in relatively large numbers and can therefore be spread through an area where several potential sources are located. Furthermore, the time of exposure is much shorter, usually 24 hours, with the consequence that correlation of measurements with wind direction data is facilitated. A case report of this type of investigation is described later. Many other forms of pollution cause complaint and other methods of measurement are necessitated. Some of these may heed only the simple approach but others require much more complex equipment and techniques. In quite a number of cases the approach to a particular investigation may not be clear at the outset and the techniques required may necessitate considerable development.

One of the encouraging features of recent years has been the increasing tendency for management to approach the Division for assistance in solving problems. In many cases the main stimulus for management to take remedial action for an air pollution problem is the unfavourable reaction of the public and this will continue probably to be an important aspect with many firms. It is now the approach of the Division to this type of problem to test the actual pollutants at the source. This information is frequently a necessary pre-requisite for the design of control equipment and facilitates the approach of the firm to the suppliers of such equipment. After it has been established that the discharge is excessive the factory occupier is advised as to what types of equipment are suited to his particular problem and where it is likely to be available. Advice is given as to what efficiency of collection should be specified and sometimes the Division's officers will conduct a test on the completion of the installation to enable the factory occupier to know that the required degree of control has been achieved.

From a small start the Division has gathered considerable knowledge concerning air pollution control and has acquired a high standing as an expert body. Not only occupiers of factories but consultants also avail themselves of the opportunity to seek information on control methods from the Division. Some typical investigations which were started in 1962 or continued from previous years are described here.

The Parramatta River Valley

During recent years many new industries have been established along the southern side of the Parramatta River from approximately Concord to Camellia and it is evident that this development will continue. Some of the major establishments are oil refineries and petrochemical plants and many complaints have been received about these in the past. Housing development which is taking place rapidly on the northern shore of the river means that there is a growing population likely to be affected. Weather conditions favour the development of inversions in the valley and hence it is regarded as one of the areas of Sydney where special attention is required.

Consequently, during 1962, a monitoring station was established on the northern side of Parramatta River on land owned by the Department of the Navy. The new station is one of the most elaborate yet installed by the Division and includes wind recording equipment. As it was only operating for a short period at the end of the year there were only preliminary results available at the end of 1962 and a more complete report will be furnished in the next annual report.

Air Pollution from Metallurgical Industries; the Nature and Extent of the Problem in Port Kembla

During the early months of 1960 a medical survey of 947 people living in East Port Kembla was carried out to determine if their health was being adversely affected by atmospheric pollution. The complete findings, together with those of an earlier scientific evaluation of the nature and extent of the problem, have been published in a departmental report, *Air Pollution by Metallurgical Industries* by A. Bell and J. L. Sullivan. Copies of this 200-page report are available upon request; none of the statistical data obtained has been included in the following brief synopsis.

Tests for sulphur dioxide were made by daily volumetric sampling instruments and a Thomas automatic recorder. The section of the town most severely affected consisted of a swathe of about 200 yards wide and extending to a point where habitation ceased about 0·6 mile from the 200 feet high stack of the copper smelter. Daily readings of the gas were not spectacular and the highest result was 0·62 part per million. During a little more than three years 24-hour readings of 0·2 part per million or more were measured on 39 days.

However, a different picture was obtained from the continuous recorder. This showed that high concentrations of sulphur dioxide tended to occur in episodes of a few hours each. Peaks of greater concentration than 5 parts per million were recorded on numerous occasions and the maximum for the sampling period was 13·5 parts per million at a point 0·45 mile from the source. The area most affected by sulphur dioxide was designated " Area A "; the control section " Area C ". The intermediate area, subject to moderate levels of sulphur dioxide, has been designated " Area B ".

Dust-fall rates measured as water insoluble solids by a deposit gauge consisting of a 6-inch diameter conical glass funnel and bottle were high by normal standards. Average annual rates varied between 17·9 and 86·1 tons per square mile per month. In some locations within a half mile from the edge of the steel industries summer dust-fall rates were found to exceed 100 tons per square mile per month. At one point a mile and a half from the steel industries the monthly rate during 1960 varied between 13·6 and 43·4 tons per square mile.

Smoke densities were found to be low by comparison with other cities in New South Wales despite frequent evidence of haze.

The residents were asked a standardised questionnaire in order to determine the prevalence of chronic bronchitis. A larger percentage of people living in area " A " consider that they are suffering from either chronic bronchitis or bronchial asthma, than is the case in area " C ". Few people complain of symptoms unrelated to the respiratory tract. When the " fumes are bad " many people remain indoors.

Residents were questioned to determine the prevalence of important respiratory symptoms. In most instances the percentages of people adversely affected were higher in area " A " than " C ". The residents of area " B " were often mid placed.

Out of those interviewed 6·7 per cent. were diagnosed as suffering from chronic bronchitis; in the case of both sexes, area " A " has a higher rate than area " C ". The bronchitis present is of a mild type.

While the prevalence of chronic bronchitis is probably higher in East Port Kembla than in Corrimal, the severity of the disease is probably the same in the two areas. The prevalence of this disease in the male community of East Port Kembla appears to be at least equal to, if not higher than, the rates determined some years ago for Australian Gas Workers and for South Coast Miners.

Out of the 471 people who agreed to participate in the tests designed to determine how many have sputum, 333 were found to be so affected. The nature of the samples returned suggests that the bronchitis present in the area is of a mild type. There were no statistically significant differences between sub-areas " A " and " C " when the numbers of people having sputum for the varying periods of residence studied, were compared.

The results of the pulmonary function tests did not show important differences between the residents in the separate areas. It does not appear that the longer a person lives in any of the three areas, the more likely he or she may develop a lower pulmonary function value. Of the people examined in January, 160 were requested to undergo a second lung test in August. The results found on the two occasions differed very little.

It was possible to compare our results with those earlier obtained by the N.S.W. Joint Coal Board for men applying to and working in the mines; the latter results were statistically significantly higher than our average overall figures.

From the dental examinations carried out we observed that when the fumes were bad during the survey, several people had an inflamed pharynx. The prevalence of chronic throat conditions was not significantly statistically higher in area " A " than " C ". A few people complained of hypersensitivity of their teeth when the " fumes were strong ". The available evidence also suggests that some external influence might be exerting a harmful effect on the gingival tissues of young people living in area " A ".

The following statements appeared in the main report:—

> " . . . . one may conclude that the respiratory health of residents living in area ' A ' is not as good as that of those living in area ' C ' . . . . . This may be easily seen by comparing the respective lengths of tables 2 : 81 and 2 : 82 . . . . As to what causes the difference . . . . . . I find it difficult not to seriously consider . . . . . sulphur dioxide . . . . .
>
> " . . . . it must not be assumed that this investigation has conclusively proved a cause and effect relationship between the prevalence of chronic bronchitis in Port Kembla and atmospheric pollution . . . . . . "

Use of Oxygen in Steel Manufacture

As reported previously the Australian Iron and Steel Co. Ltd. began to use oxygen on open hearth steel furnaces in 1960. Initially this caused a very heavy emission of iron oxide to atmosphere but the Company reduced this satisfactorily by the installation of a venturi scrubber on the one furnace on which oxygen was being used. This was purely a temporary remedy as electrostatic precipitators had been ordered together with additional oxygen manufacturing equipment to enable further furnaces to be operated in the same way.

This development was completed in 1962 and five open hearth steel furnaces are now being " lanced " with oxygen. The electrostatic precipitators started to operate simultaneously with the new furnaces and after some initial difficulties were overcome the emission of fume was reduced to a satisfactory level. Generally, it is considered that 0·1 grain per cubic foot of flue gases at N.T.P. is a reasonable maximum emission and the precipitators at this works have maintained concentrations well within this limit.

Basic oxygen steel making furnaces were also in course of construction during 1962 at the Broken Hill Pty. Ltd. steelworks at Newcastle. These are equipped with electrostatic precipitators and no emission problems are anticipated when the furnaces begin to operate early in 1963.

Sulphur Dioxide from Sulphuric Acid Works

Two works manufacturing sulphuric acid by the Contact process were the subject of investigation this year. In both cases measurements made with a Thomas continuous recorder showed high concentrations of sulphur dioxide. Unfortunately in one case it was necessary to withdraw the recorder before sufficient information had been collected to make recommendations but it is intended that it will be resumed early in 1963.

In the second case investigated very high concentrations were recorded on several occasions usually in the early morning hours. The highest peak was approximately 20 parts per million. As the works is situated in a very closely settled residential area the matter was considered to be very serious and representations to the firm were made immediately. The cause of the high concentrations were attributed to plant derangements during start-up periods mainly caused by reduction in the temperature of catalyst in the converters. Some time previously the Company had installed a caustic soda scrubber to be used at such times and the firm gave assurances that this would be used scrupulously from that time onward. The instrument was left at the site for the remainder of the year but no further high concentrations were recorded.

Catalytic Oxidation Equipment

The first catalytic combustion installation in New South Wales was made in 1962 on the exhaust outlet of an oven used for baking lacquers on cans. This action was taken as the result of many complaints of irritating and sickly odours. No opportunity was available to evaluate the installation in 1962 as it occurred only at the latter end but this is one of the projects scheduled for early 1963. Consequently, further details will be given in the next annual report.

University of N.S.W. Research Fellowship

In his capacity of honorary senior lecturer of the University of New South Wales, Dr. Sullivan continued to supervise the research activities of Mr. G. J. Cleary who is working for a Doctorate of Philosophy degree. The programme of research work which is concerned with the formation and measurement of polycyclic aromatic hydrocarbons is of great interest to the Department. Mr Cleary has already published some papers on his work and expects to complete his research thesis in 1963.

The Division was also fortunate to receive visits from overseas experts in air pollution research and control during 1962. These visits were of considerable value to the staff concerned with air pollution matters and helped to remove some of the feeling of isolation which affects the few workers in this country. Dr. Sullivan, of the Division of Occupational Health, also had the opportunity to spend six weeks in the United States.

TABLE XII—ATMOSPHERIC POLLUTION MEASUREMENTS

DEPOSIT GAUGES—SYDNEY AREA

Mean Deposit Gauge Results, 1962

Location of Gauge	Insoluble Solids	Combustible Matter	Ash	Soluble Matter
(*a*) City of Sydney				
City, George St. North	11·0	3·3	7·7	7·7
City, Martin Place	21·3	5·5	15·8	7·8
City, Central Railway	18·1	5·2	12·9	5·5
City, Town Hall	15·7	4·9	10·8	7·5
City, Art Gallery	17·3	4·4	12·7	5·9
Potts Point	13·5	4·3	9·2	6·5
Paddington	10·6	3·7	6·9	8·6
Pyrmont	42·6	13·3	29·3	10·0
Ultimo	16·0	5·1	10·9	7·9
Redfern	10·8	3·2	7·6	5·9
Darlington	11·8	3·8	8·0	5·9
Rosebery	11·8	5·4	6·4	6·5
Darling Point	6·7	2·0	4·7	4·8
Botany East, 35 Dudley Street	9·1	3·0	6·1	5·3
Botany, 18 Banksia Street	10·4	3·5	6·9	7·9
Botany, 35 Bourke Street	8·4	2·9	5·5	6·3
Botany East, 58 Denison Street	15·7	5·3	10·4	8·4
Botany, 48 Stephen Road	16·3	5·4	10·9	6·7
Eastlakes, 7 Casino Street	8·7	2·9	5·8	5·1
Mascot, King Street	15·5	3·8	11·7	6·0
Matraville, 21 Jersey Road	11·5	4·0	7·5	4·1
Matraville, 28 Baird Avenue	27·8	10·4	17·4	10·3
Matraville, 22 Cobham Avenue	13·4	4·7	8·7	7·5
Matraville, Carnegie Circ.	18·7	4·9	13·8	7·0
Sydenham, Princes Highway	23·7	4·8	18·9	5·9
Sydenham, Unwin's Bridge	11·5	3·4	8·1	4·6
Annandale, 98 Johnston Street	13·0	4·6	8·4	6·6
Balmain, 66 Birchgrove Road	10·2	3·1	7·1	4·2
Leichhardt, 94 Macaulay Street	7·6	2·6	5·0	5·2
Rozelle, Callan Park	11·3	4·0	7·3	4·5
Rozelle, 9 Byrne Street	25·0	8·1	16·9	8·8
Rozelle, 17A High Street	15·1	5·4	9·7	8·2
Rozelle, Quirk Street	11·9	4·2	7·7	4·1
Rozelle, D.H.A. Terry Street	33·6	14·8	18·8	10·3
Drummoyne, 58 Cary Street	12·3	3·7	8·6	4·6
Drummoyne, 2 Regatta Street	8·3	2·5	5·8	3·9
Fivedock, 36 Duke Avenue	8·7	3·3	5·4	5·5
Cabarita, Cabarita Baths	9·7	5·1	4·6	6·7
Concord, 6 Leigh Avenue	6·3	2·1	4·2	2·9
Mortlake, 20 Turner Avenue	7·9	3·3	4·6	3·9
Georges Hall, 44 Birdwood Road	5·7	2·2	3·5	2·7
Bankstown, 3 Market Street	6·7	2·1	4·6	3·3
Chester Hill, 117 Proctor Parade	8·9	3·4	5·5	4·3
Greenacre, 155 Noble Avenue	8·7	2·3	6·4	3·0
Panania, 35 Paul Street	6·0	2·1	3·9	3·2
Auburn, 116 Asquith Street	18·7	4·6	13·9	4·7
Auburn, 2 Mona Street	8·2	2·4	5·8	3·1
Auburn, 237 Parramatta Road	14·3	3·8	10·5	3·9
Auburn, 44 Percy Street	33·8	6·5	27·3	4·1
Lidcombe, 23 Railway Parade	12·9	3·3	9·6	4·1
Silverwater, 2 Giffard Street	30·2	7·1	23·1	6·5
Cammeray, 75 Carter Street	6·6	2·4	4·2	5·0
Crows Nest, Pacific Highway	6·8	2·3	4·5	5·5
Gordon, 33 Darnley Street	4·7	1·7	3·0	3·0
Hornsby, 5 Rofe Crescent	4·0	1·7	2·3	3·0
Naremburn, 2 Dalleys Road	8·9	2·9	6·0	5·4
Naremburn, 68a Dalleys Road	13·1	3·2	9·9	5·7
Naremburn, 7 Talus Street	11·3	2·8	6·6	5·1
Naremburn, 11 Talus Street	9·9	3·0	6·9	5·3
Manly, 8 Cary Street	24·5	15·5	9·0	10·0
Manly, 28 Cary Street	13·8	7·8	6·0	9·0
(*b*) City of Parramatta				
Guildford, 28 McArthur Street	9·4	3·0	6·4	3·0
Guildford, 57 McArthur Street	11·6	4·1	7·5	2·5

TABLE XII—ATMOSPHERIC POLLUTION MEASUREMENTS—*continued*

DEPOSIT GAUGES—SYDNEY AREA—*continued*

Mean Deposit Gauge Results, 1962—*continued*

Location of Gauge	Insoluble Solids	Combustible Matter	Ash	Soluble Matter
(*c*) City of Newcastle				
Newcastle, Scott Street	41·6	15·3	26·3	16·0
Newcastle, Hall Street	17·0	11·1	6·9	16·7
Newcastle, City Hall	15·3	6·3	9·0	23·3
Mayfield, St. Andrews Church	17·2	6·1	11·1	11·6
Mayfield, 27 Fitzroy Street	24·3	7·8	16·5	17·1
Mayfield West, Shell Service Station	17·5	5·4	12·1	17·6
Mayfield West, 9 Walsh Street	20·5	7·9	12·6	13·0
Mayfield, 60 Carrington Street	24·4	7·6	16·8	14·1
Mayfield, 58 Ingall Street	26·1	9·6	16·5	19·9
Kotara, 67 Gregory Parade	12·3	6·0	6·3	6·3
Kotara, 13 Woodlands Avenue	14·9	7·2	7·7	12·7
Waratah, 41 Lorna Street	15·5	5·7	9·8	11·4
Wallsend, 10 Crest Road	10·6	3·7	6·9	16·0
Tighes Hill, 27 King Road	31·6	10·8	20·8	18·1
Broadmeadow, 65 Broadmeadow Road	14·1	6·0	8·1	10·0
Stockton, 28 Pembroke Street	20·1	7·7	12·4	18·4
(*d*) City of Wollongong				
Port Kembla, Military Road	24·0	5·3	18·7	9·5
Port Kembla, 217 Wentworth Street	21·6	5·3	16·3	9·8
Port Kembla, 1 Jubilee Street	30·2	8·3	21·9	7·6
Port Kembla, Somme Street	11·2	2·6	8·6	4·3
Cringila, 14 Monteth Street	44·4	16·6	27·8	5·1
Cringila, 7 Sheffield Street	36·8	6·7	30·1	3·9
Warrawong, 149 Flagstaff Road	72·4	26·6	45·8	6·2
Warrawong, 217 Flagstaff Road	8·8	3·0	5·8	4·2
Warrawong, Taurus Avenue	18·3	4·8	13·5	4·8
Lake Heights, 216 Northcliffe Drive	23·9	7·4	15·5	5·4
Primbee, 55 Korrongulla Crescent	27·9	6·1	21·8	4·2

TABLE XIII—MONTHLY SMOKE DENSITIES—1962

(COH units per 1,000 lin. ft.)

Site		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
SYDNEY AND SUBURBS													
Sydney Town Hall	Av.	0·7	0·9	1·1	1·2	1·7	2·3	1·7	1·5	1·1	1·2	0·9	0·9
	H.D.	1·7	3·2	2·8	2·1	3·5	4·9	3·8	3·0	2·2	3·4	1·6	2·2
Redfern Town Hall	Av.	0·8	0·7	1·0	1·3	2·2	2·8	2·0	1·5	1·2	1·2	0·7	0·8
	H.D.	1·6	2·2	2·3	2·4	4·2	3·9	2·8	2·4	1·7	2·1	1·4	1·9
North Sydney	Av.	0·6	0·7	1·0	1·1	1·0	1·4	1·3	0·8	0·7	0·7	0·8	0·7
	H.D.	1·4	2·0	1·6	3·0	2·3	2·9	2·3	1·6	1·4	1·9	1·4	1·2
Balmain	Av.	0·6	0·7	0·9	0·9	1·1	1·6	1·6	1·0	0·8	0·8	0·7	0·6
	H.D.	1·3	1·8	1·5	2·0	2·3	3·3	2·5	2·1	1·4	1·8	1·2	1·2
Matraville	Av.	0·3	0·5	1·0	1·0	1·4	1·8	1·6	1·1	0·9	0·7	0·5	0·3
	H.D.	1·0	1·6	2·9	1·8	2·5	3·6	3·3	2·2	2·2	2·8	1·2	1·0
Paddington Town Hall	Av.	0·5	0·7	0·8	0·9	1·4	1·8	1·5	1·2	0·8	0·9	0·8	0·8
	H.D.	1·3	2·0	2·1	2·7	2·6	3·2	2·8	2·3	1·5	1·9	1·4	1·4
Botany Council Chambers, Mascot.	Av.	..	..	..	..	..	2·7	2·3	1·9	2·1	..	..	..
	H.D.	..	..	..	..	..	5·0	4·4	3·0	3·4	..	..	..
Botany Town Hall	Av.	0·8	0·7	0·9	0·8	..	2·0	2·0	1·0	1·1	1·0	0·8	0·6
	H.D.	1·0	1·1	1·6	1·8	..	3·2	4·5	1·9	2·0	2·3	1·6	1·0
NEWCASTLE													
City Hall, Newcastle	Av.	1·2	1·0	1·8	1·6	2·5	3·9	3·1	2·6	1·5	2·3	1·4	1·5
	H.D.	2·9	2·2	4·0	5·1	4·8	7·2	6·0	6·2	4·5	5·1	3·4	3·0
Bolton Street, Newcastle	Av.	0·4	0·8	0·8	0·5	2·2	1·7	1·0	0·8	1·2	1·6	0·5	0·5
	H.D.	0·8	2·7	2·2	2·6	4·1	3·7	3·7	2·4	3·1	3·4	1·5	1·7
Mayfield East, Newcastle	Av.	1·4	1·6	1·8	1·3	1·2	1·6	1·5	1·5	1·3	..	1·5	1·5
	H.D.	3·4	4·4	3·8	2·6	2·9	4·9	4·0	3·4	2·4	..	4·3	3·7

TABLE XIV—SULPHUR DIOXIDE CONCENTRATIONS—1962

(Parts per 100 million)

Site		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
SYDNEY AND SUBURBS													
Sydney Town Hall	Av. ..	1·2	1·1	1·3	1·5	2·0	2·6	2·5	2·1	2·2	2·8	2·1	0·4
	H.D. ..	3·6	2·2	3·0	3·2	4·4	5·1	5·7	4·2	3·6	4·4	4·4	0·8
Redfern Town Hall	Av. ..	3·5	3·0	3·0	2·3	3·5	3·7	3·2	3·1	3·3	3·4	2·6	2·4
	H.D. ..	4·8	5·4	4·5	4·9	4·7	5·6	4·6	4·7	4·8	5·0	4·3	3·6
North Sydney	Av. ..	0·7	0·9	1·1	1·0	1·1	1·6	1·5	1·2	1·1	1·1	1·2	0·7
	H.D. ..	1·2	1·8	1·8	1·9	1·9	2·6	3·7	2·1	2·1	2·2	2·0	1·2
Matraville	Av. ..	1·5	2·0	1·7	1·8	2·3	2·5	2·4	2·0	2·1	2·4	1·8	1·0
	H.D. ..	2·8	3·8	3·8	4·4	5·0	4·2	4·0	2·8	4·1	4·1	4·0	2·2
Paddington Town Hall ..	Av. ..	3·4	2·4	1·6	0·9	2·4	2·9	2·9	2·6	3·2	3·6	5·0	6·4
	H.D. ..	6·4	4·1	2·9	3·7	4·7	5·8	5·0	3·9	4·3	5·0	9·3	9·1
Botany Council Chambers, Mascot.	Av. ..	..	..	..	..	..	2·0	1·6	1·9	2·1	..	..	..
	H.D. ..	..	..	..	..	..	3·2	4·6	3·0	3·4	..	..	..
Botany Town Hall	Av. ..	0·9	0·9	0·8	0·5	..	1·6	1·6	1·2	1·3	1·1	1·0	0·6
	H.D. ..	1·3	1·3	1·5	1·1	..	2·6	2·8	2·8	2·3	1·9	1·6	1·4
NEWCASTLE													
City Hall, Newcastle	Av. ..	0·0	0·0	2·9	1·4	3·3	3·0	2·1	0·8	1·8	3·5	3·1	0·3
	H.D. ..	0·0	0·0	6·0	5·1	5·7	5·4	3·2	2·8	3·6	5·7	4·7	1·9
Bolton Street, Newcastle ..	Av. ..	0·0	0·0	1·6	1·7	1·8	2·1	1·3	1·2	2·5	1·7	1·5	0·5
	H.D. ..	0·0	0·0	3·4	2·6	3·6	3·7	3·2	2·3	3·5	3·5	2·9	1·1
Mayfield East, Newcastle ..	Av. ..	0·4	1·0	1·7	2·7	1·8	1·6	1·5	1·1	2·0	2·1	2·1	0·6
	H.D. ..	1·8	2·8	4·7	5·0	4·1	3·3	2·4	2·6	3·8	3·6	4·7	1·9

VISITS OVERSEAS

Mr. H. M. Whaite was granted a W. H. O. Fellowship to study latest developments in radiation safety and legislation. During his overseas tour of six months he visited many of the major centres in America and Great Britain, taking special courses at A. E. R. E. Isotope School at Wantage, United Kingdom, U.S. Radiological Health Laboratory at Rockville and the R. A. Taft Sanitary Engineering Centre at Cincinnati, U.S.A.

Dr. J. L. Sullivan attended the 55th Annual Meeting of the Air Pollution Control Association at Chicago in May. He delivered two papers—" Sydney: Potential Los Angeles of the Southern Hemisphere " and " The Calibration of Smoke Density ".

Subsequent to this conference he visited some of the major American and Canadian cities to study certain aspects of their air pollution control programmes. In view of the State's recent Clean Air Act, the timing of this visit was particularly apt and his observations should contribute towards the smooth functioning of this new legislation.

VISITORS

During the year the Division was visited by the following eminent overseas visitors:—

(1) Mr. W. A. Damon, formerly Chief Alkali Inspector, Ministry of Housing and Local Government for England and Wales.

(2) Dr. A. Glorig Jnr., Director of Research, Research Centre of the Sub-Committee on Noise in Industry, Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, Los Angeles.

(3) Dr. M. Katz, Director of the Environmental Assessment Unit, Division of Occupational Health, Department of National Health and Welfare, Canada.

(4) Dr. A. Parker, formerly the Fuel Research Station, Department of Scientific and Industrial Research, Stevenage, England.

(5) Professor M. W. Thring, Professor of Fuel Technology and Chemical Engineering, University of Sheffield, England.

EDUCATIONAL ACTIVITIES

During the year thirty-three articles have been published; this total includes many general or short articles on a variety of topics such as Occupational Nursing, Agricultural Health and Manual Handling. The following articles are of a detailed technical nature:—

Name of Author	Title of Article	Journal where Published
Mr. S. Himbury	"Industry Gets Lessons in Lifting Methods"	*Australian Factory*, Jan., 1962.
Mr. R. McLellan	"Workers and Heat Stress"	*Australian Factory*, March, 1962.
Mr. S. Himbury	"Strain and Sprains Can Be Prevented"	*N.S.W. Agricultural Gazette*, April and May, 1962.
Mr. R. McLellan	"Keep A Cool Head"	*Australian Civil Engineering*, June, 1962.
Mr. H. R. Weston	"Noise Survey of High Speed Dental Drills"	*Australian Dental Journal*, June, 1962.
Dr. J. L. Sullivan	"Sydney: Potential Los Angeles Of The Southern Hemisphere".	*Journal of Air Pollution Control Association*, September, 1961.
Dr. J. L. Sullivan	"The Calibration of Smoke Density"	*Journal of Air Pollution Control Association*, October, 1962.
Mr. N. J. Peres	"The Importance of Ergonomically Correct Seating".	*Australian Factory*, November, 1962.
Dr. A. Bell	"Does Air Pollution Affect Health"	Proceedings of the Clean Air Conference held at the University of New South Wales.
Dr. J. L. Sullivan	"Particulate And Gaseous Pollution in N.S.W. Cities".	Proceedings of the Clean Air Conference held at the University of New South Wales.
Mr. H. R. Weston	"Noise: Hearing Impairment and Annoyance. An Approach to Evaluation and Control".	*Health and Building*, November, 1962.
Mr. R. McLellan	"Thermal Hazards In Industry"	Proceedings of the 6th N.S.W. Annual Conference of Industrial Safety.

DEPARTMENTAL PUBLICATIONS

Agricultural Pesticides: A Synopsis of Toxicology and Treatment. 2nd Edition—Booklet.

Agricultural Chemicals: A Guide to Their Safe Use and to First Aid Treatment in Cases of Poisoning. Booklet.

Lift the Right Way—Its Safer. Leaflet.

Warning to Users of Organic Chlorine or Organic Phosphate Pesticides. Leaflet.

Oil Dermatitis and Its Prevention. Booklet.

Prevent Insecticide Poisoning. Poster.

There is available from the Director, a complete list of papers and articles published by the Division since 1956.

LECTURES

The Director addressed the Adelaide meeting of the Australian Medical Congress on the subject of " Accident Prevention at Work ". As stated earlier, Dr. J. L. Sullivan delivered two papers at the 55th Annual Meeting of the Air Pollution Control Association at Chicago.

Lectures have been given to D.P.H. Students; to factory inspectors; to students of the Public Health Engineering Course of the University of New South Wales; on air pollution to Graduates of the Fuel Technology Department of the University of New South Wales; to post certificate health inspectors of the Sydney Technical College and to the general public in the N.S.W. Radio University of the Air; to students of the Occupational Health Nursing Course of the N.S.W. College of Nursing and to agricultural groups meeting under the auspices of the Agricultural Bureaux.

Three addresses were given at the N.S.W. Annual Safety Convention and Exhibition.

In addition, training courses in dust sampling techniques have been held. Three Sisters have been trained to carry out stipple cell counts in their respective industries.

School Medical Service—Annual Report, 1962

STAFF

Establishment:

Director: N. S. Solomons, M.B., Ch.M.

Deputy Director: W. S. Hemphill, M.B., B.S., D.C.H.

Senior Psychiatrist; 6 Psychiatrists; 4 Trainee Psychiatrists; 2 part-time Psychiatrists; 8 part-time Ear, Nose and Throat Specialists; 1 part-time Ophthalmologist; 4 Senior Medical Officers; 6 Teachers' College Medical Officers; 4 part-time Teachers' College Medical Officers; 34 School Medical Officers; 1 part-time Medical Officer; 1 Senior Psychologist; 16 Psychologists; 2 Trainee Psychologists; 16 Social Workers; 4 Trainee Social Workers; 1 Senior Speech Therapist; 16 Speech Therapists; 18 Trainee Speech Therapists; 61 Nurses; 24 Clerical Officers; 1 Switchboard Operator.

New positions created during the year (included in above):—

1 Medical Officer; 1 part-time Teachers' College Medical Officer; 3 part-time Ear, Nose and Throat Specialists; 1 part-time Ophthalmologist; 5 Nurses.

As at the end of 1962—vacancies existed for:—

2 Psychiatrists; 3 Medical Officers; 3 part-time Ear, Nose and Throat Specialists; 1 part-time Ophthalmologist; 2 Psychologists; 2 Trainee Psychologists; 4 Social Workers; 4 Trainee Social Workers; 7 Speech Therapists; 6 Trainee Speech Therapists; 1 Clerical Officer; 5 Nurses.

The establishment of medical officers and nurses was not increased during the year, but the school population in New South Wales increased by 20,990, of which 20,727 was in the metropolitan area. Owing to resignations, sickness, extended leave, one death and other causes beyond normal control, the effective strength of the staff was continually much below the authorised establishment. Consequently, in spite of the more modified procedure adopted for school medical examinations, the programme was far from completed, at least 100 schools not being examined in the metropolitan areas. The total number of children examined increased compared with 1961 (Table 1), but the increase was accounted for in the number of children examined in country areas.

The scheme for the medical examination of country school children, by local practitioners and nurses, continued to expand and at the end of the year was operating in 90 areas (82 in 1961). In 10 other areas negotiations were in progress.

The medical examination of special cases referred by school medical officers, parents, medical practitioners, the Division of Guidance and Adjustment, and other agencies, at the Special Clinic at Head Office has increased enormously. The number of children seen at these clinics has doubled in the past two years, and two paediatrically trained medical officers are now occupied full time in these duties, visiting special classes and schools and evaluating children referred for speech defects. Registers of children suffering from aphasia, minimal organic brain damage and visual handicap, are being compiled. The work of this section is highly specialised and is under the personal supervision of the Deputy Director.

The Bexley Child Health Centre commenced operating on 10th October, 1962, this being the third metropolitan Child Health Centre to be established. Tenders for building a fourth Centre at Chatswood are to be called for early in 1963. It is also anticipated that a fifth Centre at Bankstown will be commenced later in the same year.

The In-Service Training Course in Mental Health in Childhood was again repeated during the year, and in addition to eight school medical officers, six general practitioners attended the course.

The Course in Public Health Nursing was also repeated in 1962, and was completed by eleven school nurses and four nurses from other Divisions of the Department.

Decentralisation of the administration of the School Medical Service to Medical Officers of Health in their Districts has been accomplished and is working well. Details of the work of the School Medical Service in these Districts are contained in the Annual Report of each Medical Officer of Health.

The service to pre-school children was expanded during the year and five Baby Health Centres were regularly visited by medical officers from the Child Health Centres at Forest Lodge and Parramatta. Children in the age group 2-5 years were given full paediatric examinations and assessments, and their parents were advised regarding physical, behaviour and emotional problems. There is no doubt that there is a great need for a much fuller service of this nature, as the incidence of children examined found to have a defect was approximately 60 per cent.

Owing to the large numbers of applicants for Teachers' College Scholarships, and the limited number of actual scholarships awarded, it has been decided, and approved by the Public Service Board, that only those applicants actually awarded scholarships in 1963, will be medically examined. They will continue to be examined, in the first instance, by their own medical practitioners but the total examined next year will approximate 3,000, instead of over 8,000, the anticipated number of applicants. This should considerably reduce the work of the Division in this connection and, since the medical history card has been redesigned, this will considerably lessen the amount of clerical work.

It is anticipated that towards the middle of 1963, the accommodation for the new medical examination centre on the fourth floor of 86-88 George Street North, will be completed and that this Division will then be relieved of the task of medically examining teachers for sick leave, retirement, and applicants for employment in the teaching service, including Teachers' College Scholarship applicants. This will result in school medical officers and school nurses having more time to devote to the examination of school children.

To publicise the work of the Division and to enlist their support in the field of preventive paediatrics, senior officers took part in several conferences with, and addresses to local medical associations and groups of specialist practitioners. These activities have resulted in very much improved relations with practising members of the profession, and in a large increase in the number of children referred to the Division by practitioners for special investigation and assessment. Several talks on television and radio were given by the Director and the Deputy Director, and the press has also published several factual articles on various aspects of the work of the Division.

A ten-minute feature film of the work of the Division, entitled "The Happy Years", was completed early in the year and shown on television. The film has been used on several occasions in talks to Mothers' Clubs, Parents and Citizens' Associations, and others, and has been well received on all occasions.

MEDICAL INSPECTION OF SCHOOL CHILDREN

During 1962, in spite of the fact that a greater number of school children were examined, a number of schools were not visited in the metropolitan, Newcastle and Wollongong areas. However, the scheme for the medical examination of school children in country areas by general practitioners, under the auspices of local Councils, continued to expand, and many more children in country areas were examined.

The procedure adopted during 1962 was unchanged. Children were fully examined at entrance (kindergarten or first grade), reviewed with particular reference to hearing, vision, skin and hair in fourth grade; fully examined in second year and reviewed in fourth year. Children found to have a defect at a previous examination in any class were reviewed if the medical officer considered it was necessary, as in the past. Many children in various classes were presented by teachers and school nurses, and also many parents asked for their children to be examined.

During the year, medical officers examined 276,385 children, of whom 162,898 were fully examined and 113,487 were reviewed; 39,963 of the latter group being in fourth grade and fourth year (Table I).

TABLE I

	1960	1961	1962
School population	790,458	809,493	830,483
Number of pupils fully examined and reviewed	178,818	260,217	276,385
Number of pupils fully examined	102,772	158,476	162,898
Number of pupils reviewed in 4th grade	18,621	....	....
Number of pupils reviewed in 4th grade and 4th year	....	35,471	39,963
Other reviews	57,425	66,270	73,524
Number of pupils fully examined and number reviewed in 4th grade and 4th year, expressed as percentage of school children	15·36*	23·96	24·43

*In 1960 4th year pupils were fully examined, not reviewed.

Table II shows in detail the number of children who were fully examined or whose cases were reviewed, in primary and secondary schools, for the years 1960, 1961 and 1962, in the metropolitan area, country, and the whole of the State.

Table III shows the number of pupils who were fully examined or reviewed and the school population in the metropolitan area, remainder of the State, and in New South Wales, for the year 1962.

Excluding dental defects, defects of a notifiable standard were found in 33·10 per cent. of the children fully examined, compared with 32·02 per cent. in 1961.

The most important defects are shown in Table IV. Of the 53,925 defects recorded (this total does not include dental defects), it was found necessary to notify 67 per cent. of them to parents or guardians, in order that further investigation and/or treatment could be effected.

The parents of 20·8 per cent. of the children fully examined were notified that the oral condition of their children needed urgent attention or was detrimental to their health. The comparable figure for 1961 was 19·2 per cent.

The number of parent interviews carried out by medical officers in 1962 was 15,368, as compared with 12,674 in 1961. The percentage of parents interviewed to the number of children fully examined during 1962 was 9·43, in contrast to the incomplete figure of 8 per cent. in 1961.

The number of " warning letters " sent to parents of children in 4th and 5th years, and other years in Child Health Centre areas, was 912, compared to 806 in 1961. These letters indicate to the parents defects which might debar the acceptance of their child as a trainee teacher, at the same time informing parents that the Service would be prepared to give a definite opinion on the suitability of the children for such training, if desired. Many parents availed themselves of this service, and 146 children were examined, 73 at Head Office; 35 at Forest Lodge Child Health Centre; and 38 at Parramatta Child Health Centre. In addition, definite opinions were given to 271 parents regarding vision and hearing defects without examination, on the presentation of the requisite certificates of oculists or aurists.

During the year visits were paid to nursery schools by medical officers of the Service, the details of which are given in a later section of this Report. Similarly, the medical examination of children at special schools is dealt with separately.

Special Follow-up Visits to Schools by Medical Officers

In February, 1962, there was commenced a system of special follow-up visits to schools in the metropolitan area. This was planned so that a school medical officer's advice could be made available to the teaching staff on the management of children who, for medical reasons, may be experiencing difficulties in the school situation. These children have been referred by paediatricians, general practitioners, hospital clinics, and by the various clinics within the School Medical Service. They mainly comprise brain-damaged children and epileptics.

Initial interviews were held concerning 36 such children (26 boys and 10 girls). Review visits were made in 11 (seven boys and four girls) of these cases, when it was considered that seven of these children were now sufficiently orientated into the school situation to warrant the suspension of further special observation. Other children will be observed further during a change of grade or school.

Generally, the teaching staffs were appreciative of the advice tendered; the majority of teachers interviewed being most interested to participate in the scheme. The care and individual attention afforded these handicapped children by their teachers was most impressive, having regard, especially, to the other heavy demands on the teachers' time. There can be no doubt that all have gained considerably from a scheme for which there seems to be a definite need and which, in its present form, appears to be very satisfactory. However, it is considered that these children would benefit most by their inclusion in small special classes in charge of specially trained teachers.

Child Health Centre, Forest Lodge

Dr. G. J. Cousins, M.B., Ch.M., D.C.H.

The Centre has continued to function satisfactorily during 1962. In January, the Child Guidance Clinic became a full-time one, and on 22nd May the Bridge Road School for emotionally disturbed children opened in two classrooms immediately adjacent to the Centre.

Because of a falling school population in this area, the number of schools serviced by the Centre was increased by 14 schools on the periphery of the original area. Annual medical inspection was carried out in 99 schools but 11 schools attached to the Centre were not visited owing to the loss of a medical officer's service due to illness. However, close contact was maintained with these schools and the Centre's facilities freely offered and accepted. Full examinations were carried out on 10,855 children and review examinations on 5,299 children, the number of parent interviews by medical officers being 2,177.

The follow-up work of the nurses of the Centre has continued during the year. A total of 2,558 children were examined in the schools during 155 visits, and 1,277 home visits were made. The nurses referred 147 children to the Centre for further investigation.

A survey of the results of the follow-up procedure by the school sisters was carried out during the year, and showed that of 1,628 defects found in children from 70 schools, parents had commenced appropriate attention for the defect in 55 per cent. of cases within three months of notification. After a period of several more months only 19·5 per cent. of the defects remained untreated. In 6·8 per cent. of cases the defect had resolved without medical attention.

A survey of the immunisation status of school pupils was also carried out during the year by officers of the Centre, with the following results:—

Schools and children investigated			Children claimed to have been immunised			
Type of School or Department	No. of Schools or Depts.	No. of Children	for Poliomyelitis	for Diphtheria	for Pertussis	for Tetanus
Infants	64	3,808	2,935	3,067	2,754	2,576
Per cent.	....	....	77·0	80·5	72·3	67·7
Secondary	23	1,936	1,647	1,712	1,425	988
Per cent. ..	....	....	85·0	88·4	73·6	51·0

The information in all cases was gathered from the parent either by details filled in on the child's medical history card or at interviews, and whilst not statistically correct, it is apparent that large numbers of children are not being protected against poliomyelitis, diphtheria and tetanus.

The appointment system for consultations for parent and child with the medical officers at the Centre has been used on 850 occasions during 1962. Five hundred and nine new cases were dealt with and there were 341 review consultations.

Analysis of the reasons for attendance of the 509 new cases gives the following information:—

Mental health problems, 331 or 65 per cent.

Physical defects, 116 or 22·7 per cent.

Defects of doubtful or mixed origin (mental health and physical bases), 62 or 12·1 per cent.

Of the 509 new cases seen at the Centre, 377 were from Departmental Schools, 93 from Private Schools, and 39 were pre-school children.

Letters were sent to 175 parents of children attending High Schools who had a defect which could result in their medical unfitness for entrance to a Teachers' College; the letters also offered appointments in order to give a firm opinion in this regard. Thirty-five parents availed themselves of the opportunity of medical examination, and in addition, 61 certificates from oculists and aurists were assessed.

The seven nursery schools in the Centre area were visited regularly by a medical officer on 36 occasions, during which 588 medical examinations were carried out and 222 parents were interviewed.

The two speech therapists attached to the Centre continued to carry a full case load, and there is a long waiting list for treatment. The therapists work in close liaison with the medical officers and the child guidance team. Children with speech defects are frequently the subject of multiple consultation by the staff.

The Hearing Clinic has continued to function during the year, though the number of attendances has decreased slightly, due probably to a reduction of the backlog of unattended cases in this third year of service. Information regarding the work of the Clinic is as follows:—

	Total Number	Hearing Normal	Deafness due to remediable defects	Severe Chronic Deafness	Cases recommended treatment or receiving treatment	Hearing Aid recommended
New Cases—						
B.	135	29	84	8	66	..
G.	106	24	69	4	52	1
Total	241	53	153	12	118	1
Review—						
B.	192	49	91	25	37	..
G.	127	36	66	19	24	1
Total	319	85	157	44	61	1
Grand Total ..	560	138	310	56	179	2

A dietitian from the Department of Public Health attended the Centre regularly during 1962, and dealt with cases of nutritional defect referred by the medical staff. Twenty-seven new cases were seen and 47 review examinations made—a total of 74 interviews. Satisfactory results were obtained with approximately half of these cases.

A full-time Child Guidance Clinic was established within the Centre in January. During the year 170 new cases initially assessed by the staff of the Centre have been transferred to the Child Guidance Clinic for further investigation and/or treatment. The close relationship which has developed between the Clinic and the Centre staff has been most valuable in dealing with the day-to-day problems, including those of the adjoining Bridge Road Public School for emotionally disturbed children, administered by the Child Guidance Clinic.

The medical examination of pre-school children in selected Maternal and Baby Welfare Clinics continued during the year. Medical officers attend two clinics on one half-day each week, and a third clinic on one half-day each month. The high incidence of defects, both physical and mental, indicates the need for an extension of this service. The percentage of children examined found to have a defect, either physical, mental, or both, was 59 per cent.

The Centre's lecture room has been used, as in previous years, for educational purposes, such as the nurses' In-Service Training Course in Public Health, for postgraduate training in Mental Health for Service medical officers, and for meetings with officers of the Department of Education.

Liaison has been maintained with various institutions and individuals in the interests of the children of the area. Co-operation has been generously given with verbal and typed reports by the staff of the Royal Alexandra Hospital for Children, the Royal Prince Alfred Hospital, Officers of the Department of Education and the Child Welfare Department, and some general practitioners.

Child Health Centre, Parramatta

Dr. P. M. O'Flynn, M.B., B.S., D.P.H.

The work of this Centre progressed very satisfactorily during 1962. The programme of medical inspection of schools in the area was completed, apart from four schools. A total of 16,889 children were examined. Full examinations were carried out on 13,026 children, and review or partial examinations on the remaining 3,863. The large number of full examinations was due to the fact that this was the first year of examinations under the Centre Scheme. Parents were interviewed in 3,706 cases, and 1,813 teacher interviews were carried out by the medical officers.

Follow-up work by nurses of the Centre has been carried out regularly in the schools and by home visits. During medical inspections nurses examined or interviewed 13,299 cases; interviewed 926 teachers; followed up 1,015 cases; and spent 136 hours in school preparation.

Of 761 children with notifiable defects followed up within three months of the medical inspection, 584 (or 76·7 per cent.) had been treated. The percentage of cases where action had been taken within three months varied from school to school, the lowest figure being 52·8 per cent. and the highest 100 per cent. These figures do not include children with notifiable hearing defects awaiting a Hearing Clinic appointment.

Sisters carried out 1,436 home visits, and they also collected statistics on children not immunised against poliomyelitis, whooping cough, diphtheria and tetanus. The information was taken from the medical card filled in by the parent and revealed that 12·1 per cent. of cases had not been immunised against diphtheria, 16 per cent. not immunised against whooping cough, 24·7 per cent. not immunised against tetanus and 13 per cent. not immunised against poliomyelitis.

Two pre-school clinics were visited by medical officers on one afternoon each per week. From March to December inclusive, 318 new cases and 31 reviews were seen.

At the Centre the appointment system for consultation for parent and child was used on 924 occasions; a total of 638 new cases were investigated and attention arranged; and 286 review appointments were seen. Review appointments consisted of parent and child, or parent only, as the case required.

In the case of the 638 new cases, 75-90 minutes was allotted for the initial interview. The ratio of boys : girls was approximately 3 : 1. The youngest child seen was 1 year 9 months and the eldest 18 years. There were 56 pre-school children and one who had left school. Of the 581 children of school age, 495 attended Departmental schools and 86 attended Private schools.

The referring agencies of new cases were:—

School medical officers	156
Other medical practitioners or hospitals	120
Parents at times of medical inspection of schools	106
Parents directly to the Centre	19
Teachers to medical officers in schools	90
Headmasters direct to the Centre	30
Department of Education (Sydney (Western) Area)	51
*Speech therapists	28
Child Welfare Department	12
Baby Health Centres	19
Miscellaneous (social agencies, ministers of religion, etc.)	7
	638

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* The figure of 28 cases referred by speech therapists is not indicative of the total number referred by them to the medical officers. Many of the cases seen by the medical officers at the request of the speech therapists had originally been referred to the speech therapists direct by another agency, and the original referring agency has been given in the figures quoted above

These 638 new cases were dealt with in the following manner:—

Referred to Child Guidance Clinic (just under 50 per cent. of total new cases)	312
Dealt with by the medical officers (parent counselling, special school or class placement, referral to Educational Clinic)	234
Referred to own doctor for treatment	6
Awaiting medical officer: psychiatrist discussion	26
Awaiting results of investigation (I.Q., E.E.G.)	60
	638

A full report is forwarded to whoever refers a case, and when considered necessary, the family doctor, the headmaster, the school counsellor, or any other agency is contacted.

One hundred and sixty-three (or approximately 20 per cent.) new cases failed to attend for initial interview. The largest causes were holidays and family illness. In the majority of cases parents, of their own volition, requested a further appointment. Six appointments were cancelled because the child had improved, and only 15 parents followed-up stated that they did not want a further appointment made. The reason for non-attendance was not always known; in the majority of these cases a letter denoting non-attendance of the case was forwarded to the referring agency.

Fifty-five cases (or 19 per cent.) failed to attend for review appointments. The reasons for non-attendance were much the same as those given for new cases.

During the year 38 fourth and fifth year pupils were medically examined at the Centre in order to determine their medical suitability for entrance to a Teachers' College, and in addition, 30 certificates from oculists and aurists were assessed.

During 1962, many children aged between 2 and 5 years had their vision tested at the Centre, at the request of a local ophthalmic surgeon.

The Hearing Clinic has provided a very satisfactory service for the investigation of children with chronic ear conditions or suspected hearing defects. Two half-day sessions per week proved inadequate for the number referred by the medical officers, and the establishment of a third session per week should ensure that current long waiting lists will eventually be catered for. During 1962, 322 new cases (200 boys and 122 girls) and 257 reviews (142 boys and 115 girls) were examined.

Details are as follows:—

	B.	G.	Total
New cases with normal hearing	55	31	86
Reviews with normal hearing	43	29	72
New cases recommended or under treatment	56	29	85
Reviews recommended or under treatment	27	25	52
New cases remedial	36	25	61
Reviews remedial	21	15	36
New cases recommended Deaf School	..	1	1
Reviews recommended Deaf School	..	..	..
New cases recommended O.D. Class	1	2	3
Reviews recommended O.D. Class	..	..	..
Chronic Deafness	59	31	90
New cases and reviews recommended or with hearing aids	1	5	6
Failure to attend	32	25	57

Unfortunately 87 children (43 boys and 44 girls) who attended the Hearing Clinic were not classified into the above categories.

Difficulties were experienced in staffing the Child Guidance Clinic during 1962, and at the end of the year the staff consisted of a part-time psychiatrist, attending on two days each week, two full-time psychologists and a social worker attending on three days each week. In spite of these difficulties the team attended to 428 new cases.

All children and their parents, who were referred for child guidance, were initially examined and assessed by the medical officers of the Centre and only referred to the Child Guidance Clinic if considered necessary. Children with minor problems and their parents were counselled and treated by the medical officers themselves, the child guidance team members always being available for consultation and advice.

A record was kept, during the year, of the number of children seen in the Child Guidance Clinic who were found to have abnormal electroencephalograms (brain damage), and it is interesting to note that 16·6 per cent. of all children referred to the Clinic were so affected. The majority of these children were referred as behaviour problems.

The Speech Therapy Clinic functioned throughout the year satisfactorily with a staff of two therapists for most of the time.

Figures relating to the work of the Child Guidance Clinic are shown in Table V, and those for the Speech Therapy Clinic in Tables VI and VIa.

Weekly case discussions were held during the latter part of the year, at which the staff of the Child Guidance Clinic, the medical officers, speech therapists and members of the Parramatta Educational Clinic of the Department of Education participated. These conferences were considered to be of immense value to all concerned, and particularly helpful in solving the problems of the children discussed.

The co-operation and help of local medical practitioners and the staff of the Parramatta Educational Clinic throughout the year has been greatly appreciated, and has considerably helped all members of the Centre Staff in carrying out the objects of the Child Health Centre.

Child Health Centre, Bexley

Dr. R. Ellam, M.B., Ch.B.

The Bexley Child Health Centre, the third such Centre to be established in the metropolitan area, was opened on 10th October, 1962, in the old Bexley Home Science School, which has been extensively altered and renovated to accommodate the Centre staff. The staff consists of four medical officers, six nurses, a part-time Child Guidance Clinic team and one clerical officer.

The Centre is designed to provide a school medical service for the pre-school and school child population of approximately 43,000 living in the surrounding area. The total of 73 schools covered by the Centre includes both Departmental and Private schools.

The programme of medicali nspections in the 73 schools of the area was completed by the end of the school year.

Following the annual medical inspection of a school, notified defects were followed up by the nurses. Since the Centre was inaugurated in October, 422 children were folllowed up by visits to 28 schools and 227 homes.

Between 10th October and 31st December, 1962, 128 consultations with parents were conducted at the Centre by the medical officers. A total of 80 new cases were referred for investigation and advice, and in addition, review appointments were arranged on 48 occasions. Of the 80 new cases referred the number of referrals of children attending Departmental and non-Departmental schools was directly proportional to the respective percentage of the total school population. Children attending Departmental Schools made up 81·25 per cent. of referrals and children from non-Departmental Schools 17·5 per cent. Pre-school children comprised 1·25 per cent. of referrals.

The referring agencies of these cases were—

	Cases	Per cent.
Centre staff	60	75
Parents	7	8·75
Teachers	6	7·5
Child Guidance Clinics	1	1·25
School counsellors	5	6·25
Child Welfare Department	1	1·25
	80	

Although only 80 new cases were referred in 1962, consideration of the reasons for referral reveals the fact that only 8·75 per cent. of the referrals were on account of purely physical defects. The vast majority of the problems presented fitted broadly into the field of mental health. The Child Guidance Clinic co-operated in dealing with this section of the work. Several cases were taken over by the Child Guidance Clinic staff, and their advice was available at all times, particularly at the weekly case conferences.

The categories of the 80 cases referred to the Centre were as follows:—

	Cases	Per cent.
Physical defects	7	8·75
Physical defects with secondary emotional disturbance	2	2·5
Primary emotional disturbance	58	72·5
Mental retardation only	5	6·25
Doubtful nocturnal enuresis	5	6·25
Speech defects	3	3·75
	80	

Liaison has been established with most schools in the area, the associated school counsellors and the Department of Child Welfare.

It is anticipated that a part-time Hearing Clinic will be established at the Centre early in 1963, and also that the two speech therapists at present situated at Rockdale Public School will be transferred to the Centre when the alterations to the building have been completed, probably in January, 1963.

Child Health Centre, Newcastle

The report on this Centre is incorporated in the Annual Report of the Medical Officer of Health, Newcastle Area.

Scheme for medical examination of school children conducted by local medical practitioners for Shire and Municipal Councils

This scheme was expanded considerably during 1962. A medical officer of this Service visited 12 Shire and Municipal Councils and discussed the scheme with Shire Councillors, Aldermen and medical practitioners. Doctors who were willing to co-operate were briefed in the procedure of medical examination adopted by this Service. Similar visits were made by Medical Officers of Health in their own Health Districts.

By the end of 1962, the scheme had been established in 90 country Council areas and in 10 areas it was under consideration. Several Councils had declined to embrace the scheme, or had deferred its adoption, mainly because of lack of co-operation by local medical practitioners.

During the year, the children in 722 schools were examined, 51,461 being fully examined; 8,340 were reviewed; and 2,107 parents were interviewed.

Doctors conducting school medical examinations and nurses assisting them are paid by Councils according to a fixed scale of fees, and these payments are refunded to the Councils by the Department of Public Health.

Medical Examinations in Special Schools

During 1962, regular visits were paid to Departmental schools and to schools and homes conducted by welfare and voluntary organisations which provide for the education of children with physical or intellectual handicaps. In many cases a full medical examination was carried out on individual children prior to their entry to these schools, to determine their suitability for admission. A full medical examination was also carried out on all children new to a school, and where possible, on those children who were fully examined two years before. In addition, review examinations were carried out routinely, and special examinations were made on children referred by teachers or parents.

The friendly liaison between this Service and the Division of Guidance and Adjustment, Department of Education, was further consolidated, and there was much useful interchange of information, and helpful consultation.

Visits were paid to some schools in company with the Senior Speech Therapist and speech problems were discussed with principals and teachers. Although therapy was not always indicated, the teaching staff were most appreciative of the advice given and the guidance offered to parents.

At the beginning of the second term the School for the Deaf was moved from Darlington to North Rocks, and was included in the list of Special Schools. It was generally considered that much benefit would accrue from this arrangement. In addition, the School for the Blind at Wahroonga was closed and a new school established at North Rocks. Those children using sighted methods for education were placed in partially-seeing units attached to normal schools.

The Assessment Committee, representing the Department of Education and the School Medical Service, which previously had met at the School for the Blind, Wahroonga, paid visits to the School for the Deaf and the School for the Blind at North Rocks, and to the partially-seeing units, to assess the progress and adjustment, both medically and educationally, of the children in attendance.

The total number of children examined was 1,072, and of these, 14·0 per cent. had notifiable defects. These children were referred for advice and treatment to general practitioners, special clinics, hospitals, Child Guidance Clinics, and the North Ryde Psychiatric Centre.

The following schools conducted by the Department of Education were visited: Glenfield Park Public School, Glenfield; Hassall Street Public School, Parramatta; Albert Road Public School, Strathfield; Cromehurst Public School, Lindfield; Loftus Street Public School, Arncliffe; Woniora Road Public School, Hurstville; School for the Deaf, North Rocks; School for the Blind, North Rocks; Partially-seeing units at Tempe Public School, Asquith Public School, Lidcombe Public School, Kingsgrove North High School, Northmead High School.

The following schools or homes conducted by voluntary organisations were visited: Crowle Home, Ryde; Eurella House, Burwood; Sunnyfield Training Centre, Manly Vale; St. George District Subnormal School, Kogarah; Sydenham-Bankstown Branch Subnormal School, Campsie; Sutherland Handicapped Children's Centre, Sutherland; Windgap, Coogee; Greenacres, Wollongong; Cooinda, Canley Vale; Thorndale, Penrith; Dunrossil, Merrylands: Isabella Lazarus Home for Jewish Children, Hunter's Hill.

The following school conducted by a church organisation was visited: Mater Dei Special School, Narellan.

The following homes conducted by the Child Welfare Department were visited: Brush Farm, Eastwood; May Villa, Dundas.

Information concerning the activities of this Service in special schools and homes during the year 1962 is given hereunder:—

School	No. of Visits	No. of Full exams.	No. of Reviews	No. of Notifiable Defects	No. of Parents Interviewed
Department of Education—					
Glenfield Park	9	21	270	19	..
Hassall Street	9	59	27	12	5
Albert Road	3	3	23	8	..
Cromehurst	2	..	12	2	2
Loftus Street	2	2	11	..	..
Woniora Road	5	41	22	15	4
Partially-Seeing Units—					
Tempe Public School	2	8	..	..	1
Lidcombe Public School	2	15	2	3	..
Asquith Public School	3	13	6	..	..
Kingsgrove North High School	2	10	..	..	..
Northmead High School	3	10	7	5	..
Child Welfare Department—					
Brush Farm	2	23	4	5	..
May Villa	3	11	8	2	..
Subnormal Children's Welfare Assn.—					
Crowle	4	22	22	13	3
Eurella	4	18	12	8	12
Sunnyfield	3	13	13	5	..
St. George District Branch	2	1	15	1	1
Sydenham-Bankstown Branch	6	20	23	9	17
Windgap	5	16	41	10	10
Dunrossil	4	28	4	6	4
Greenacres	2	14	9	2	5
Thorndale	2	4	18	5	14
Sutherland Handicapped Children's Centre	6	21	29	6	14
Cooinda	3	20	9	4	..
Mater Dei Special School	2	23	10	2	..
School for the Deaf, Darlington and North Rocks	4	21	5	3	2
School for the Blind, North Rocks	5	9	7	5	..
Isabella Lazarus Home for Jewish Children	2	17	..	4	..
Total	101	463	609	154	94

Total number of medical examinations—1,072

Percentage of notified cases — 14·0

Nursery Schools

During 1962, the children in 15 nursery schools in the metropolitan area were examined. Children examined in nursery schools in country Health Districts will be reported on by the Medical Officer of Health of the District in his Annual Report. In the metropolitan area a total of 69 visits were made to the schools, during which 1,248 medical examinations were carried out on 645 children, and 517 parents were interviewed.

Defects of notifiable standard found were as follows:—

Defects	Boys 332 examined		Girls 313 examined	
	No.	Percentage	No.	Percentage
Vision	1	0·30	..	..
Squint	16	4·82	14	4·47
Hearing	7	2·11	5	1·60
Nose and throat	25	7·53	27	8·63
Skin	12	3·61	6	1·92
Heart	3	0·90	1	0·32
Lungs	20	6·02	3	0·96
Asthma	10	3·01	7	2·24
Developmental (Hernia)	19	5·72	12	3·83
Orthopaedic	84	25·30	79	25·84
Nervous system	2	0·60	1	0·32
Maladjustment and behaviour problems	61	18·37	42	13·41

SCHOOL SANITATION

Following each visit to a Departmental school, a report is submitted by the medical officer concerning its sanitation and hygiene. In 1962, a total of 1,423 Departmental schools were visited by medical officers, both full-time and working on a sessional basis in country areas. The accommodation for pupils was considered satisfactory in 96·56 per cent.; sanitation (including toilet, drinking and ablution facilities) was found to be satisfactory in 83·84 per cent.; buildings and grounds were satisfactory in 89·04 per cent.; and accommodation for medical officers was considered satisfactory in 93·81 per cent.

On receipt of the reports from medical officers, the Department of Education is notified of the conditions found, and requested to take steps to remedy any unsatisfactory findings.

The comparative figures for 1961 were: Number of schools visited, 982; pupil accommodation satisfactory in 98·88 per cent.; sanitation satisfactory in 87·57 per cent.; buildings and grounds satisfactory in 92·26 per cent. No figures for medical officers' accommodation were available.

CHILD GUIDANCE CLINICS

During the year, the child guidance service was extended by the establishment of a full-time psychiatric team at the Child Health Centre, Forest Lodge, where an important development was the opening of the Bridge Road School. Extension took place also at the Child Health Centre, Parramatta, which had started to function towards the end of 1961, and rapidly increased its activities during 1962. Later in the year a psychiatric team began a part-time service at the recently opened Child Health Centre at Bexley.

The child guidance service now includes Brisbane Street Centre, with accommodation for four psychiatric teams and the main facilities for clinical training, and in addition, clinics at Camperdown, Yasmar, Forest Lodge, Parramatta, Bexley and Newcastle.

Associated with this extension has been an increase in the number of cases referred to the clinics during the year. From a total case load of 3,680 in 1961 there has been an increase of 1,668 cases, making a total case load of 5,348 in 1962. The waiting lists have shown a corresponding increase from a total of 456 in 1961, to 727 in 1962, and the total number of cases carried forward to 1963 was 1,717; almost 1,000 more cases than in the previous year.

While the demands on the service were increasing, the number of psychiatrists was reduced as the result of three resignations and one temporary transfer. To meet the situation, which by August had become acute, the duties of the remaining psychiatrists were modified, each clinic functioning independently under a psychiatrist-in-charge, who acted mainly in a supervisory and consultative capacity to other staff engaged in treatment and counselling. The clinics most affected were Brisbane Street, Camperdown and Forest Lodge, but the various changes in staff have had some impact on all clinics, and no psychiatric team has remained unaltered throughout the year. The pattern of team work has thus undergone considerable change.

The In-Service Training Course in Mental Health in Childhood was again given to school medical officers and general practitioners by the Senior Psychiatrist, who also assists with the course in Public Health Nursing. Altogether a total of 61 lectures were delivered to various agencies and disciplines interested in child psychiatry.

A statistical summary of the work of the child guidance clinics is given in Table V.

Bridge Road School

The Bridge Road School opened on 22nd May, with a group of four boys. Discussions between the Departments of Education and Public Health towards the end of 1961, had led to a decision to establish the school in a classroom immediately adjacent to the Child Health Centre, Forest Lodge.

A psychiatric team, consisting of one psychiatrist, two psychologists and one social worker, began duty at the Child Health Centre in January, and provided a full-time service to the Centre and the school. A teacher from the school at the North Ryde Psychiatric Centre, was appointed by the Department of Education and took up duty in April, shortly before the first group of children began attendance.

The selection of children presented some difficulty, largely because many parents were unable to arrange transport for the children. It soon became apparent that the four boys, with whom the school opened, were so prone to acting-out behaviour that one teacher, working single-handed, would be unreasonably handicapped. At the end of the term (August) three of these four boys were considered unsuitable to continue in the school and were transferred elsewhere. The next term opened, therefore, with only two boys.

On 21st September, 1962, at a meeting of the psychiatric team, the teacher and several school counsellors from adjoining districts, a clearer understanding of the purpose of this work and the type of children who might benefit was achieved, and it was decided to start a survey of disturbed children in local schools. By the active co-operation of school counsellors over thirty referrals were made, and altogether about forty children were screened for the school during the following weeks.

As a result of this survey six children, all boys, were found suitable, and towards the end of November there were seven boys attending daily, and one boy attending part-time.

At the end of the year a waiting list of 36 children had been prepared, but the selection of the group for the first term of 1963 was deferred, pending decisions regarding transport and staff.

Only one child has completed both terms since the school opened in May, and he has been considered unsuitable to continue in 1963. One boy attended throughout the third term, and has improved sufficiently to resume ordinary school next year. The other six boys who began attendance in November will require further treatment, and are expected to continue at the school next year.

It is much too early yet to attempt to evaluate the project, but it is hoped that in 1963, more continuity will be obtained, and some assessment may then be possible.

SPEECH THERAPY

In January, 1962, seven full-time Clinics and one special Clinic were operating, and at the end of the year there were 12 full-time, two part-time and one special Clinics operating.

With an increase of staff, more adequate clinical services were given, these being extended to permit the employment of two speech therapists at Forest Lodge, Bexley, Parramatta and Newcastle Child Health Centres.

After satisfactorily completing Departmental traineeship, four therapists entered the Service at the end of the year.

The total number of cases treated was 1,115, compared with 887 the previous year. The results of existing policy with all referrals—to make clinical contact where possible—has been strongly illustrated by the following figures:— in 1961, the number of initial interviews was 671, whereas in 1962, the total was 1,302. Accordingly, follow-up admissions and interviews increased by 245 and 290 respectively. The existing waiting list is 1,341.

Co-operation by medical officers and other officers of the School Medical Service enabled follow-up investigations and referrals to be effectively carried out for all new cases, and with further emphasis on the benefit of dual assessments the speech therapist participated jointly with medical officers to give more adequate services to country and special referral cases.

Consistent direct staff contact was maintained by the Senior Speech Therapist to near-city Clinics, as well as Wollongong and Newcastle. This inter-staff contact was further maintained by the regular staff meetings.

Statistics relating to the work of speech therapy clinics during 1962 are set out in Tables VI and VIA.

Medical Assessment of Children with Speech Defects

During the year, medical assessments, comprising dual interviews by the school medical officer and the speech therapist, were continued at each of the five Speech Clinics. These interviews at Parramatta Speech Clinic were held during the last quarter of the year only.

Two hundred and three children, including 146 boys and 57 girls, were evaluated. Of these, 117 were accepted for regular speech therapy. After the initial counselling and advice, 61 children are to be followed up at intervals and 11 are to be reviewed later. Two of the children seen were considered to have normal speech.

The children were referred to the clinics by general practitioners, dentists, school medical officers, teachers and school counsellors. A number came as a result of personal application.

Eight children were referred to a Child Guidance Clinic and three others were currently receiving treatment at such a Clinic. A further 10 children may be referred to a Child Guidance Clinic later, after a period of observation in the Speech Clinics.

Sixteen children were referred to the Division of Guidance and Adjustment for assessment and/or special placement. Five children had been assessed prior to interview. Two others will be referred later after a period of observation and therapy.

A number of children have been referred to the Commonwealth Acoustic Laboratory for evaluation of hearing and language development. The reports from the Laboratory have been of great assistance.

Of the 201 children with speech defects, 112 had dyslalia; 36 were stammerers; 16 exhibited slow speech development (with or without mental retardation); 16 had dual speech defects; 7 had sigmatism; 6 had had cleft palates and were found to have residual speech defects; 4 had expressive aphasia; and there was one child with each of the following:— receptive aphasia, vocal cord paresis with speech defect, dysarthria, and pharyngeal incompetence.

Abnormal birth histories were elicited in 106 cases, and in 14 cases the histories were doubtfully abnormal. No birth histories were available in eight cases.

It is considered that the Speech Clinic facilities are very satisfactory for this system of medical evaluation, and it seems that much benefit is obtained from the reinforcement of advice to the parent at the initial interview. In general, parents appear most appreciative of the time spent in the interview, for which at least one hour is allotted.

The scheme is also valuable in that it facilitates rapid assessment of the total case load. It has been noted that many cases require the one interview only, with the offer of further assistance if difficulties arise. Thus the therapist is free to spend more time with the difficult cases.

The response to treatment is good, especially where the full co-operation of parents and school teachers has been obtained. Facilities available at pre-school kindergartens and clubs are valuable adjuncts to therapy. It seems that, where parental co-operation and these other facilities are lacking, prognosis is poor.

HEARING CLINIC

The Hearing Clinic at 86-88 George Street North, continued throughout the year on a full-time basis, ten sessions being held weekly, attended by five ear, nose and throat Specialists.

Children were referred to the Clinic by Paediatricians and school medical officers, Child Guidance Clinics, speech therapists, the Division of Guidance and Adjustment, Department of Education, Aborigines' Welfare Board, Department of Child Welfare, by ear, nose and throat Specialists, doctors in general practice, parents and school principals and teachers.

A total number of 1,697 new cases was examined, this number being made up of 997 boys and 700 girls. The number of cases reviewed was 1,646, this number being made up of 958 boys and 688 girls. Detailed information of these cases is contained in Table VII.

Children with treatable deafness are referred to their local doctor or an out-patients' department at a public hospital for consultation with an ear, nose and throat Specialist. Children with hearing defects, who would benefit from the use of a hearing aid, are referred to the Commonwealth Acoustic Laboratory, which supplies these aids to the children free of charge.

Children with severe deafness requiring special education are referred to the Division of Guidance and Adjustment for placement in classes for deaf children. The counsellor for the deaf, an officer of the Department of Education, is in attendance one day weekly for consideration of educational problems associated with deafness.

ASTHMA CLINIC

The Asthma Clinic continued to function satisfactorily during the year, and treatment was continued along the lines stated in the Annual Report for 1960.

In addition to the ordinary routine work of the Clinic, the general survey of results of treatment which was begun in 1954 was continued, and completed for those children who began treatment in 1960. Surveys of those children who undertook treatment in 1961 and 1962 were commenced but could not be fully completed as each survey is based on a two-year period of review. An additional survey, on the seasonal incidence of asthma, was carried out for the five-year period 1957-61. Whilst the results are not conclusive, it would appear at this initial stage that the highest incidence of attacks in 170 of those children who commenced treatment in this five-year period, occurred in the month of October in all five years.

During the year, the newly formed Asthma Foundation of New South Wales requested the use of several photographs of typical asthmatic children from the Clinic's records, for illustration of a brochure compiled to assist in the appeal for funds which the Foundation is promoting in March, 1963. Arrangements were made for parental consent to be given, and photographs of three children were included in the brochure.

The total number of appointments made for initial consultation (that is, new patients) was 298, of which number 225 appointments were kept and consultations held. Of these, the number of children who subsequently undertook treatment was 76.

The total number of appointments made for consultation with children already under treatment was 1,245, of which number 1,092 appointments were kept.

The survey of 95 children who commenced treatment in 1960 showed that 60 children remained under treatment for a period of two years or more, 23 gave it up within a period of three months to two years and 12 gave it up within three months.

Results obtained in 60 children who remained under treatment for two years or more:—

	No. of Cases	Percentage
Excellent	28	46·67
Very much improved	13	21·67
Much improved	12	20
Improved	7	11·66
No improvement	..	..
	60	100

Results obtained in 23 children who remained under treatment for periods of from three months to two years:—

	No. of Cases	Percentage
Excellent	(None classified as such as not under treatment for the full period of two years or more).	
Very much improved	10	43·48
Much improved	6	26·09
Improved	7	30·43
No improvement	..	..
	23	100

Results obtained in 12 children who gave treatment up within three months:—

	No. of Cases	Percentage
Excellent	None classified as such owing to short time under treatment.	
Very much improved		
Much improved		
Improved	10	83·33
No improvement	2	16·67
	12	100

INFECTIOUS DISEASES, OTHER ILLNESSES AND ACCIDENTS

During 1962, 29,863 cases of injury and 202,826 cases of illness, other than infectious disease, were reported amongst pupils attending Departmental schools, necessitating respectively an average absence from school of 1·3 and 1·08 weeks. The figures for 1961 were 29,339 cases of injury and 156,969 cases of illness.

Table VIII shows the number of pupils in Departmental schools who suffered from the common infectious diseases in each year from 1953 to 1962, and the average absence from school for each disease during 1962. These figures indicate a decline in measles, whooping cough, scarlet fever, diphtheria, mumps, acute conjunctivitis, meningococcal meningitis and hepatitis, compared with 1961. There was no variation in cases of acute rheumatism, but an increase was shown in the case of German measles, sore throat, chicken pox, influenza and poliomyelitis.

During 1962, 3,799 children were notified as suffering from impetigo requiring an average absence of 1·6 weeks; from ringworm, 2,936, average absence 1·9 weeks; scabies, 74, average absence 2·2 weeks; and pediculosis capitis, 1,560, average absence 1·7 weeks. There was little variation in the figures compared with 1961.

The number of children who were absent from school as contacts of infectious diseases during 1962 totalled 4,197, compared with 5,449 in 1961.

No serious epidemic of infectious disease occurred in any Departmental school during the year.

CONTROL OF TUBERCULOSIS IN SCHOOLS

Close liaison was again maintained with the Division of Tuberculosis in regard to tuberculosis occurring in school children and teachers. Each case is notified, followed up and supervised by this Division, while the necessary action for control of the disease is carried out by the Division of Tuberculosis.

During 1962, there were 25 cases of tuberculosis amongst school children (22 pulmonary and three extra-pulmonary). One case of tuberculosis occurred in a teacher. These figures compare with 24 cases in school children and six cases amongst teachers and students in 1961.

During the year, 30 teachers (41 in 1961) who had a history of tuberculosis were reviewed, and an opinion given to the Department of Education regarding their fitness to continue teaching.

In compliance with the campaign for the control of tuberculosis, 65 teachers (42 in 1961) who had suffered from acute respiratory conditions, such as pneumonia or pleurisy, were X-rayed and an opinion expressed as regards their fitness to continue teaching.

MEDICAL EXAMINATION OF TEACHERS AND TEACHERS' COLLEGE ENTRANTS

The School Medical Service again carried out the general administrative medical work of the teaching service of the Department of Education during 1962.

The procedure was virtually the same as that carried out in 1961, and again many applicants for Teachers' College Scholarships had to be medically reviewed at Head Office in order to ascertain their medical fitness.

Teachers in the service were referred for medical examination, as in the past, for various reasons, including sick leave or retirement, determination of fitness for appointment to the permanent staff, transfer from temporary or casual staff to permanent staff, and for other causes. Where indicated, psychiatric examinations of teachers and student teachers were carried out.

The number of medical examinations carried out was:—

	1959	1960	1961	1962
Teachers' College entrants—				
Division examinations	2*	6*	4*	3*
Private Practitioner examinations	5,824*	5,862*	7,443*	7,500*
Applicants for employment	805	839	971	950
Sick leave, transfer to permanent staff, special examinations, and retirements	840	920	822	712
Psychiatric examinations	233	285	350	366
	7,704	7,912	9,590	9,531

*These figures cover the twelve months period from 1st March of the year indicated.

Additionally, the following examinations were carried out:—

Teachers' College entrants reviewed at Head Office	349
Applicants for overseas exchange	7
Medical re-assessment of graduates of Teachers' Colleges	86
	442

Arrangements were made for chest X-ray only in the case of 31 applicants for employment in the metropolitan and the country areas.

The causes of sick leave in the 517 cases examined were as follows:—

	M.	F.	Total
Diseases of the cardio-vascular system	31	20	51
Diseases of the respiratory system:			
Tuberculosis	1	..	1
History of tuberculosis	14	16	30
Bronchitis, asthma	4	11	15
Control of tuberculosis	30	35	65
Gastro-intestinal disease	6	13	19
Malignant disease	1	4	5
Gynaecological disease	..	4	4
Diseases of genito-urinary system	2	3	5
Diabetes mellitus	..	1	1
Skin disease	3	5	8
Rheumatism and disease of bone	6	7	13
Ear, nose and throat conditions	4	4	8
Eye conditions	2	2	4
Anaemia and general health	5	11	16
Thyroid conditions	2	2	4
Accidents	4	6	10
Disease of central nervous system	7	7	14
Mental disease:			
Psychosis	21	13	34
Psychoneurosis	42	55	97
Other	27	55	82
Orthopaedic	3	6	9
Hepatitis	..	4	4
Varicose veins	1	2	3
Alcoholism	1	1	2
Other (general health)	3	10	13
	220	297	517

During the year the retirement of 14 teachers was recommended, for the following reasons:—

	M.	F.	Total
Diseases of the cardio-vascular system	1	3	4
Injuries	..	1	1
Mental disease:			
Psychoneurosis	2	2	4
Psychosis	..	2	2
Pulmonary tuberculosis	1	..	1
Accident	..	1	1
Malignant disease	1	..	1
	5	9	14

Of the 7,503 candidates examined to determine fitness for entrance to a Teachers' College, 120 (1·60 per cent.) failed to pass the medical examination. This compares with 1·57 per cent. for the previous year. The causes of rejection were:—

	M.	F.	Total
Myopia	2	2	4
Other visual defects	3	2	5
Impairment of hearing	6	5	11
Other E.N.T. conditions (mainly perforated eardrum)	2	4	6
Overweight	1	2	3
Migraine and frequent headaches	6	16	22
Asthma	8	20	28
Orthopaedic conditions	2	..	2
Genito-urinary conditions	1	..	1
Organic heart disease Cardio-vascular disease	5	3	8
Lung condition	1	1	2
Epilepsy	4	5	9
Skin conditions	2	6	8
Nervous condition	2	4	6
Blood Dyscrasia	..	1	1
Other	1	3	4
	46	74	120

In addition to the examinations carried out at Head Office, arrangements were made for the medical examination of applicants for employment and transfer to the permanent staff in the country, by Government Medical Officers. The number of these examinations was 592, compared with 484 in 1961.

At the end of the year, 2,210 graduates from the various Teachers' Colleges were medically examined to determine their fitness for permanent appointment. The comparable figure for 1961 was 1910.

MEDICAL EXAMINATION OF SPECIAL GROUPS OF CHILDREN

Special medical examinations were arranged at Head Office for children referred for investigation and/or advice by medical practitioners, teachers and parents, because of special health problems; also by the Department of Education, including children for examination as to their fitness for admission to special schools or classes; and also for advice regarding the educational problems of children with handicaps, either physical, mental or intellectual. The examinations were carried out by medical officers experienced in paediatrics, and the diagnosis and evaluation of these special problems.

Children were also examined at the request of the Department of Child Welfare, Dalwood Homes, the Aborigines' Welfare Board, and the Far West Children's Health Scheme. With the exception of the last two referring agencies, all children were accompanied by parents, who were also interviewed and given advice regarding their children's management and schooling. In all cases, a full report was forwarded to the referring agency.

The number of medical examinations of special groups of children carried out during the year was 946 (853 in 1961).

Immigrant children sponsored by the Little Brother and Fairbridge Farm Schemes were medically examined at the Immigration Centre immediately on arrival in New South Wales, on behalf of the Department of Child Welfare.

In addition, this Service is able to assist the Department of Child Welfare in expressing opinions on the medical fitness of persons wishing to adopt children.

TEACHERS' COLLEGES

During the year, 10 medical officers were seconded to Teachers' Training Colleges in New South Wales—six full-time and four part-time. Wollongong Teachers' College commenced student training in the second term of 1962.

In the final year of their training students were given a course of lectures in School Health and First Aid. Use was made of visual aids in the form of films, filmstrips, charts and models. Discussion groups were held, and in some colleges, specialist visiting lecturers were invited to address students. Assignments were prepared by the students on set subjects relating to their Health Syllabus.

In the majority of colleges, demonstration lessons were conducted, and in some colleges, additional lectures on growth and development, and elementary physiology were given to first year groups.

All students were required to pass an examination in School Health and First Aid prior to receiving their Teaching Certificate.

For the first time this year, the Department of Public Health awarded prizes in School Health. These were given to meritorious students in colleges where prizes were not already available in this subject.

All students on scholarship were kept under medical supervision, and students who were absent due to sickness were referred to the medical officer on return to college. Injured or sick students were also examined and referred either to their own doctor, or if necessary, to the nearest hospital. Special interviews and counselling were given to students with family, personal or study problems, and where necessary, referrals were made to Head Office for specialist advice.

All students were Mantoux tested or X-rayed prior to admission to college. Students with a positive Mantoux reaction were referred for X-ray examination.

In the second half of 1962, 2,210 students were medically examined for permanent appointment to the teaching service.

The numbers of students and information concerning attendance of medical officers at the various colleges are set out hereunder.

College	Enrolment	Medical Officers
Sydney	1,145 (Plus 1,212 undergraduates on scholarship)	2 full-time.
North Newton	632	1 full-time.
Balmain	267	1 part-time.
Orange Grove	87	1 part-time.
Alexander Mackie	Until Sept. 540 From Sept. 410	1 full-time.
Armidale	513	1 full-time.
Bathurst	606	1 part-time.
Wagga	394	1 part-time.
Newcastle	322	1 part-time.
Wollongong	154	1 part-time.

NATIONAL FITNESS CAMPS

Three nurses from the School Medical Service continue to be attached for duty at National Fitness Camps. The camps are at Point Wolstoncroft, Broken Bay and Myuna Bay. These nurses supervise the health of the children attending the camp, attend to all cases of accident or sickness, give talks on hygiene and general health matters to the children, and assist in the general overall supervision of the sanitation and hygiene of the camp itself. A report on all these matters is forwarded to the Director of the Division at the end of each camp.

CONCLUSION

My thanks are due to all members of the School Medical Service for their co-operation and assistance in carrying on the activities of the Service during the year.

TABLE II—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED IN THE METROPOLITAN AREA, REMAINDER OF STATE AND NEW SOUTH WALES, 1960, 1961, 1962

	Metropolitan Area			Remainder of State			New South Wales		
	1960	1961	1962	1960	1961	1962	1960	1961	1962
Primary—									
Full Examination—									
Kindergarten and Grade 1	29,226	37,719	36,813	6,372	20,833	27,162	35,598	58,552	63,975
Others	11,261	10,080	20,057	7,062	28,425	37,549	18,323	38,505	57,606
Total: Full Examinations	40,487	47,799	56,870	13,434	49,258	64,711	53,921	97,057	121,581
Reviews	52,781	67,792	58,131	3,991	10,986	23,800	56,772	78,778	81,931
Grand Total	93,268	115,591	115,001	17,425	60,244	88,511	110,693	175,835	203,512
Secondary—									
Full Examination—									
Year 1	25,594	20,246	654	9,186	10,895	4,146	34,780	31,141	4,800
Year 4	5,281	5,898	8,468	1,748	2,643	2,635	7,029	8,541	11,103
Others	5,071	13,460	14,208	1,971	8,277	11,206	7,042	21,737	25,414
Total: Full Examinations	35,946	39,604	23,330	12,905	21,815	17,987	48,851	61,419	41,317
Reviews	15,807	18,237	21,024	3,467	4,726	10,532	19,274	22,963	31,556
Grand Total	51,753	57,841	44,354	16,372	26,541	28,519	68,125	84,382	72,873
Total Full Examinations	76,433	87,403	80,200	26,339	71,073	82,698	102,772	158,476	162,898
Total Reviews	68,588	86,029	79,155	7,458	15,712	34,332	76,046	101,741	113,487
Grand Total	145,021	173,432	159,355	33,797	86,785	117,030	178,818	260,217	276,385

TABLE III—NUMBER OF PUPILS WHO WERE FULLY EXAMINED OR WHOSE CASES WERE REVIEWED, AND SCHOOL POPULATION, IN METROPOLITAN AREA, COUNTRY AND NEW SOUTH WALES, 1962

	Metropolitan Area		Country		Total	
		Percentage		Percentage		Percentage
Primary Schools—						
Population	307,516	....	267,447	....	574,963	....
No. of Full Examinations	56,870	18·49	64,711	24·20	121,581	21·15
No. of Reviews	58,131	18·90	23,800	8·90	81,931	14·25
Secondary Schools—						
Population	141,298	....	114,222	....	255,520	....
No. of Full Examinations	23,330	16·51	17,987	15·75	41,317	16·17
No. of Reviews	21,024	14·88	10,532	9·22	31,556	12·35
Total—						
Population	448,814	....	381,669	....	830,483	....
No. of Full Examinations	80,200	17·87	82,698	21·67	162,898	19·61
No. of Reviews	79,155	17·64	34,332	9·00	113,487	13·67

TABLE IV—DEFECTS OF NOTIFIABLE STANDARD FOUND IN PUPILS FULLY EXAMINED, 1962, AND EXPRESSED AS A PERCENTAGE

No. Examined	Primary		Secondary		All Pupils	
	Boys	Girls	Boys	Girls	Boys	Girls
	62,716	58,865	23,239	18,078	85,955	76,943
Defects—						
Vision	3·26	4·02	4·45	4·95	3·58	4·24
Squint	0·83	1·01	0·45	0·54	0·73	0·90
Hearing	3·90	3·44	2·32	2·00	3·47	3·10
Nose and throat	2·57	2·95	0·86	1·05	2·11	2·50
Skin	1·43	1·31	1·53	2·25	1·46	1·53
Thyroid	0·10	0·24	0·11	0·72	0·11	0·35
Heart—Circulation	0·56	0·54	0·40	0·75	0·51	0·59
Lungs	2·67	2·23	0·79	0·88	2·16	1·91
Asthma	3·19	1·91	2·57	1·71	3·02	1·87
Development—Hernia	0·77	0·30	0·46	0·12	0·69	0·26
Orthopaedic	1·49	1·29	1·31	1·86	1·44	1·43
Nervous System	0·29	0·26	0·24	0·18	0·27	0·24
Psychological	0·89	0·61	0·31	0·34	0·73	0·54

TABLE V—STATISTICS RELATING TO WORK OF CHILD GUIDANCE CLINICS, 1962

Location of Clinic	Brisbane Street	Camperdown	Forest Lodge	Parramatta	Bexley	Newcastle	Yasmar
Case load—							
(*a*) Continued from 1961 to 1962	107	160	33	4	..	166	..
(*b*) New cases 1962	1,503	549	311	428	55	440	885 (Referred)
(*c*) Reviews, etc. not included above	46	2	2	..	..	20	314 (Committed).
Total	1,656	711	346	432	55	626	1,199
(*d*) Closed during 1962	876	609	223	256	21	447	..
(*e*) Cases current at 31-12-62	537	58	113	172	21	89	..
(*f*) On waiting list 31-12-62	243	44	10	327	13	90	..
Continued to 1963 (*e*) +(*f*)	780	102	123	499	34	179	
Age Groups—New Cases—							
Male	832	306	225	296	37	288	1,199
Female	671	243	86	132	18	152	
Total	1,503	549	311	428	55	440	
0— 5 years	183	60	51	46	3	49	3
6—11 years	624	247	175	250	35	215	109
12—15 years	607	181	73	126	17	117	554
Over 15 years	89	61	12	6	..	59	219
	1,503	549	311	428	55	440	
Source of Referral—							
Personal application	599	212	44	48	8	57	All referred from Children's Courts and Department of Child Welfare
Children's Courts	303	107	..	..	1	28	
Department of Child Welfare	5	2	20	11	..	28	
Department of Education	95	74	106	81	2	67	
Hospitals, Social Agencies, etc.	83	34	33	37	2	29	
Medical Practitioners	131	25	16	105	15	107	
School Medical Officers, Nurses, etc.	252	90	74	109	27	111	
Speech Therapists	35	5	18	37	..	13	
	1,503	549	311	428	55	440	

TABLE VI—STATISTICS RELATING TO THE WORK OF SPEECH THERAPY CLINICS, 1962

	Forest Lodge		Rockdale		Waterloo	Parramatta		Willoughby		Glenfield Park	Wollon-gong	Newcastle	Padding-ton	Total
	No. 1	No. 2	No. 1	No. 2		No. 1	No. 2	No. 1	No. 2					
Under treatment 1-1-62	..	3	15	..	2	..	34	23	..	12	..	36	34	159
No. of first interviews	99	55	88	126	56	208	157	37	129	..	132	132	83	1,302
Admitted or Re-admitted to treatment														
—current	61	44	25	62	47	21	32	18	47	..	55	55	38	505
Admitted for Follow-up only ..	20	17	8	45	24	40	71	5	45	..	72	25	6	378
Total cases treated 1962	81	64	48	107	73	152	123	46	92	12	127	116	74	1,115
No. of Reviews	64	15	22	72	53	21	24	15	39	..	58	87	117	587
Total No. of attendances, 1962	1,557	859	1,177	1,044	1,265	902	1,068	707	1,007	288	950	1,283	1,479	13,586
Failed to continue treatment ..	8	7	..	5	4	10	6	2	5	..	21	14	19	101
Transferred to other clinics	2	1	..	3	1	1	18	4	2	..	..	2	7	41
Discharged—														
Under observation	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Relieved	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Follow-up	70	19	42	50	39	44	54	17	33	..	38	49	79	534
Under treatment, 31-12-62	..	18	20	30	22	23	..	19	30	12	22	37	..	233
Cases awaiting first interview 31-12-62	310		200		78	372		93		..	100	188	..	1,341

Table VIa—Additional Information Relating to the Work of Speech Therapy Clinics, 1962

Classification of speech defects seen during 1962:—

Disorders of Voice—

Aphonia	..
Dysphonia	7
Hypernasality	23
Cleft Palate	32

Disorders of Articulation—

Dyslalia	464
Sigmatism	71
Structural Articulatory Defects	11
Hearing Loss	38
Dysarthria	16

Disorders of Language—

Alalia	18
Dyslalia associated with Language Problems	96
Aphasia	21

Disorders of Fluency—

Primary Stammering	108
Secondary Stammering	167
Cluttering	1
Stammering and Dyslalia	42
	1,115

Referrals for further investigation:—

Child Guidance Clinic	110
Hearing Clinic	47
Division of Guidance and Adjustment, Department of Education	33
Psychologist, School Medical Service	16

Table VII—Figures Relating to Work of Hearing Clinic, 1962

	Total number	Hearing normal	Deafness due to remediable conditions	Chronic deafness	Still receiving treatment and recommended	Cases examined in O.D. Classes	Wearing Hearing Aid	Hearing Aid recommended	Recommended for O.D. Classes	Recommended for Darlington School for the Deaf
New Cases—										
B.	997	393	409	82	236	101	31	7	16	13
G.	700	212	277	76	177	58	26	8	22	26
Total	1,697	605	686	158	413	159	57	15	38	39
Reviews—										
B.	958	294	344	106	196	111	23	4	4	..
G.	688	221	233	72	136	55	18	5	6	..
Total	1,646	515	577	178	332	166	41	9	10	..

TABLE VIII—NUMBER OF CASES OF COMMON INFECTIOUS DISEASES IN DEPARTMENTAL SCHOOLS, 1953-1962

	Measles	German Measles	Whooping Cough	Scarlet Fever	Diph-theria	Sore Throat	Chicken Pox	Mumps	Influenza	Acute Conjunc-tivitis	Acute Rheumatism and Chorea	Polio-myelitis	Meningo-coccal Meningitis	Hepatitis
1953	8,748	2,193	2,946	516	237	23,551	23,383	6,838	20,828	1,041	1,065	219	61	* ..
1954	36,080	6,345	1,210	477	144	27,482	12,577	24,480	98,665	946	1,007	190	54	..
1955	7,229	3,765	2,184	411	63	30,953	22,733	14,623	93,334	1,543	1,090	83	63	..
1956	30,202	5,547	3,132	478	34	29,790	15,513	9,052	79,595	2,119	1,095	120	47	..
1957	8,484	4,234	1,270	450	31	35,571	19,518	14,616	211,793	2,043	945	34	44	..
1958	22,389	6,059	1,036	658	29	40,016	18,090	32,207	82,632	2,849	925	35	65	..
1959	31,513	6,492	1,696	514	7	46,668	17,163	15,110	178,918	3,512	746	23	50	..
1960	13,823	12,023	1,902	465	8	53,383	29,778	10,514	112,426	5,293	801	7	45	1,458
1961	31,203	6,230	1,560	323	14	53,068	15,405	20,882	104,570	3,185	603	35	54	1,481
1962	14,396	6,485	382	317	10	57,847	25,625	16,825	128,559	2,535	604	51	46	640
Average absence in weeks 1962	2·26	1·56	2·96	2·79	1·72	0·95	2·1	2·1	0·9	0·9	4·5	12·5	4·8	3·9

* Figures not available prior to 1960.

Division of Dental Services—Annual Report, 1962

As at 31st December, 1962.

Director: W. B. Haymet, B.D.S.

Senior Supervisory Dentist: C. S. White, B.D.S.

Five new Dental Officers and five new Dental Assistants' positions were created during 1962 The total establishment is now 41 Full-time Dental Officers; 4 Part-time Dental Officers; 28 Dental Assistants; and 1 Office Assistant.

ACTIVITIES

The year was a rewarding one for the Division of Dental Services in some respects. Five new dental clinics were put into operation at the Public Schools in Wollongong, Adamstown (Newcastle), Hurstville, Naremburn and Parramatta. Three additional mobile clinics were obtained to make a total of twelve, for use in country areas.

The increase in staff strength was made to absorb the five Trainees in Dentistry in 1961, all of whom graduated, and were appointed Dental Officers. In the main the trainee scheme was successful. Nevertheless, three of the five trainees will resign at the expiration of their bonds. The conclusion to be drawn from this is that country service as a Dental Officer is still not sufficiently attractive.

The output of the work by the Division was again the greatest ever; 113,124 school children were contacted, which is also the greatest number to date. The number of new cases (*i.e.*, new patients) treated in the School Dental Service, although greater than in 1961, was disappointingly low. This was due to the new system of treating school children in Sydney, Newcastle and Wollongong by means of the new clinics. It took some time for the location of the clinics to become known and appreciated owing to the necessity of travelling, and the need for parents to accompany children. Even so, the total amount of fillings, extractions, etc., carried out in the School Dental Service was greater than the previous year.

There was insufficient supervision of field supervision of field activities during the year because of lack of sufficient clerical assistance at the office. A recent organisation and method survey has recommended an additional clerical unit, which should help to correct the position during 1963.

In the first two weeks of September, an investigation was made of the dental services in New Zealand. The School Dental Service there is considered the most effective in the world, and the experience and knowledge gained were of benefit to the Division here.

The total work achieved by the Division in 1962 was:—

Examinations	129,852
Notified	61,397
New Cases	22,371
Repeat Cases	58,983
Total Cases	81,354
Extractions	40,711
Fillings	73,680
Other treatments including prophylaxis	73,945
Dentures	1,063
Denture repairs	513
Orthodontic appliances	17
General anaesthetics	104

School Dental Service

After some building delays the new fixed clinics were put into operation as from September, 1962, at Wollongong, Adamstown (Newcastle), Parramatta, Hurstville and Naremburn. Each clinic consists of two surgeries, waiting room, office, darkroom, laboratory, separate wash rooms for staff and patients. The clinics are of pleasing modern design, well equipped (including X-ray and high-speed drills) and well furnished. Being separate buildings in school grounds the clinics are not obliged to observe school hours, and are open from 9 a.m. to 5 p.m., Monday to Friday, including school holidays. This feature is of assistance to parents with travelling difficulties.

Three additional mobile clinics were put on the road in February. These are of the caravan type which enables the clinic itself to be left at remote country schools whilst the staff travel by the prime mover to accommodation in the towns.

An indication of the wide coverage of N.S.W. by the School Dental Service may be gained from the following list, which includes some of the areas visited in 1962:—

Sydney Metropolitan Area.
Sydney Outer Metropolitan Area.
Grafton-Byron Bay-Gloucester-Dungog-Singleton.
Coonamble-Mudgee-Nevertire-Warren.
Dubbo-Narromine-Gilgandra-Orange.
Kempsey-Walcha-Armidale-Tweed Heads.
Lismore-Kyogle-Casino-Tabulam-Woodenbong.
Raymond Terrace-Stroud-Maitland.
Quirindi-Nundle-Keepit Dam-Boggabri-Gunnedah.
Bingara-Tingha-Ashford-Yetman-Bonshaw-Moree.
Delegate-Bombala-Cooma.
Wollongong-Fairy Meadow-Tarrawanna.
Broken Hill-Silverton-Tibooburra-Wanaaring.
Wilcannia-Hillston-Balranald-Wentworth.
Cobar-Tottenham-Hay.
Barmedman-Young-Binalong-Boorowa.
Newcastle-Weston-Cessnock-Lake Macquarie.
Blue Mountains-Hawkesbury River.
Wagga Wagga-Holbrook-Illabo.

Clinical officers treated 54 metropolitan and 235 country schools, and examining officers visited 86 metropolitan and 364 country schools. In all 740 schools received some attention from the School Dental Service in 1962. In addition, children from various schools were treated at the Stewart House Preventorium and Glenfield Park School.

The usual advisory service was maintained to the Child Welfare Department and Aborigines Welfare Board. The annual inspection of aboriginal children at the La Perouse Camp was made in January.

Posters, pamphlets, etc., were distributed to schools, and used in the course of lectures to Parents and Citizens' Associations, mothers' clubs, Rotary Clubs, etc. Use was also made of television and radio for dental health education purposes.

Aerial Dental Service: The School Dental Service operated in conjunction with the Royal Flying Doctor Service, N.S.W. Section, to provide a dental service which continued to be well received. Requests for the service resulted in the necessity for placing an additional team (Dentist and Assistant) at Broken Hill and environs. A Departmental four wheel drive vehicle was also based at Broken Hill to enable the closer centres to be treated by road, avoiding unnecessary air travel. In all, the two dental teams travelled 20,000 air miles and 6,000 miles by road, and treated 752 patients. There were 906 extractions, 1,866 fillings and 1,091 other treatments. This was apart from patients treated in Broken Hill itself.

In the course of examining 23,133 children 6 to 9 years to obtain parental permission to carry out treatment, clinical officers found that only 8·4 per cent. had naturally healthy dentitions. A further 16·4 per cent. had healthy teeth as a result of previous attention, thus 91·6 per cent. of these children had already experienced dental decay, and 75·2 per cent. were actually dentally unfit at the time of examination.

The examination officers who included 86,516 Primary school children (*i.e.*, from 5 to 12 years) in a dental health survey, showed that only 7 per cent. had not experienced dental decay, and 70·5 per cent. were dentally unfit. Actually the latter figure shows an 11 per cent. improvement over the number of children dentally unfit in a corresponding survey in 1961. It is possible that the School Dental Service dental health education programme may be achieving limited success. The figures would need to be reviewed over a period of some years before definite conclusions could be drawn.

The total work accomplished by the School Dental Service was:—

Examinations	113,124
Notified	61,397
New Cases	16,601
Repeat Cases	42,479
Total Cases	59,080
Extractions	26,718
Fillings	66,668
Other treatments including prophylaxis	60,378
Dentures and orthodontic appliances	30

In September an investigation was made of the dental services in New Zealand. It is generally conceded that the New Zealand School Dental Service is the most effective in the world. From observations made the standard of dental health of New Zealand children was much higher than in N.S.W. The New Zealand scheme provides for dental treatment of Primary school children by means of two years trained young women, and Secondary school children by means of private dental practitioners on a fee for service basis. Each section of the scheme costs approximately £1 million in New Zealand annually—a total of £2 million N.Z. The total strength is 1,400; 910 of whom are dental nurses, and 53 fully qualified dentists.

There are 950 dental clinics strategically placed in the schools of New Zealand, and each nurse is responsible for treatment of approximately 450 children. 95 per cent. of school and pre-school children are under treatment of the clinics. The total effect of the scheme on Primary school children can best be illustrated by quoting the 1961 annual report which showed that only 3·6 per cent. of extractions to fillings were carried out. In other words the children's teeth were being restored and retained until normal exfoliation time.

Dental Services to Government Institutions

As in previous years the dental services to Government Institutions functioned well. A new dental clinic was completed at the Glenfield Park Special School due to the co-operation of the N.S.W. Department of Education. The school is visited regularly by officers of the Division.

Child Welfare Department. A new dental clinic was included in the Ormond School for Girls, Thornleigh. A dental Officer now visits this institution on a regular basis. The work in Child Welfare Homes has progressively increased, so that two Dental Officers are now employed full-time on these duties. The usual pleasant co-operation was received from this Department during the year.

Total work achieved in Child Welfare Homes in 1962 was:—

Examinations	3,276
New Cases	1,738
Repeat Cases	4,216
Total Cases	5,954
Extractions	3,168
Fillings	3,718
Other treatments including prophylaxis	4,703
Dentures	306

Mental Hospitals: The usual regular visits were maintained to all Mental Hospitals in the State. High-speed dental drills were supplied to Kenmore, Morisset and Rydalmere Hospitals. New dental equipment was ordered for the dental surgery in the new Allandale Hospital at Cessnock.

During the year a visit was made to Peat and Milson Islands by representatives of the Australian Dental Association and the Dental Faculty, University of Sydney.

Total work achieved in Mental Hospitals in 1962 was:—

Examinations	8,098
New Cases	1,836
Repeat Cases	7,955
Total Cases	9,791
Extractions	5,883
Fillings	2,133
Other treatments including prophylaxis	5,161
Dentures	421
Denture repairs	318
General anaesthetics	64

State Hospitals and Homes and Chest Hospital. The usual regular visits were made by Dental Officers to Lidcombe, Newington and Garrawarra, and to Randwick Chest Hospital.

Total work achieved for 1962 was:—

Examinations	1,430
New Cases	620
Repeat Cases	1,883
Total Cases	2,503
Extractions	1,813
Fillings	261
Other treatments including prophylaxis	1,927
General anaesthetics	40
Dentures	196
Denture repairs	36

CONCLUSIONS

The investigation of the New Zealand School Dental Service in September, demonstrated to what extent such a service can be effective. To support recommendations already made in a specific report on the New Zealand Dental Services it is repeated that it would be prudent to introduce a similar scheme in N.S.W. as soon as practicable consistent with geographical differences. This would involve the training of suitable young women to treat children of pre-school and Primary school ages, and the introduction of a scheme of using private dentists on a fee for service basis, for treatment of High School children.

It would be advisable to make the necessary amendment to the Dental Act to make use of New Zealand trained dental nurses already on the staff of the Division, as there are a number of vacancies for School Dental Officers.

It is again necessary to draw attention to the concern felt by the School Dental Service at the needless delay in the fluoridation of water supplies in Sydney and Newcastle particularly.

Annual Report, 1962

(As at 31st December, 1962)

	School Dental Service	Mental Hospitals	State Hospitals and Homes	Chest Hospital	H.M. Gaols	C.W.D. Establishments	Total
Examinations	113,124	8,098	1,302	128	3,924	3,276	129,852
Notifications	61,397	..	..	..	..	..	61,397
New Cases	16,601	1,836	492	128	1,576	1,738	22,371
Visits	59,080	9,791	1,932	571	4,026	5,954	81,354
Extractions	26,718	5,883	1,552	261	3,129	3,168	40,711
Fillings	66,668	2,133	137	124	900	3,718	73,680
Other Treatments incl. Prophylaxis	60,378	5,161	1,578	349	1,776	4,703	73,945
General Anaesthetics	..	64	35	5	..	..	104
Dentures	13	421	170	26	127	306	1,063
Repairs to Dentures	..	318	32	4	97	62	513

NUTRITION

Nutrition Section—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Senior Dietitian: Miss R. Stern, M.Sc., (Pretoria), M.Sc., (Ohio).

Three Dietitians.

One Secretary to the Nutrition Section and the New South Wales State Nutrition Committee.

FUNCTIONS AND RESPONSIBILITIES

The Nutrition Section is responsible to the Director of State Health Services for the interpretation of the findings of recent nutrition research to the lay public and for the dissemination of information on nutritional requirements in health and disease, food values and costs, cooking methods and the organization of food services.

ACTIVITIES DURING THE YEAR

(a) Press Articles, Broadcasts and Telecasts

Regular weekly articles and radio scripts (200-400 words) were prepared for circulation to Editors of approximately 300 Country and Suburban newspapers and 40 radio stations.

Tape recordings were made for the Women's Sessions for the Regional Broadcasts of the Department of Agriculture and also for Radio 2UE, 2SM and 2GB.

Three Television appearances were made on Channel 7. The topics were low fat cookery, fats in the diet and the diet of children.

Special articles were written for Health Week Journal; *Family Health*; the Department Bulletin *Health in New South Wales*; and the Randwick Chest Hospital Observer.

(b) Publications

Publications were revised when necessary for reprinting. These included *Food and Nutrition* and the low Cost Food Budget.

A new pamphlet entitled *How to Lose Weight Wisely* was published and the draft of another pamphlet *Food that Children Need* was prepared.

(c) Lectures and Talks

A total of 10 (1½ hour) lectures and eight cookery classes were given to junior and senior Trainee Nursing Assistants and two lectures were given to a group of male nurses at Lidcombe State Hospital.

Two courses of 10 lectures were given to Kindergarten and the Sydney Day Nursery Training College Students.

Three courses of four lectures were given to nurses at the Karitane Mothercraft Training Centre and a course of four lectures to the Public Health Nurses at Forest Lodge Child Health Centre.

Six sessions on nutrition were included in the Geriatric Salmagundi organized by the New South Wales Association of Mental Health.

For the New South Wales Agriculture Bureau talks were given at Women's Sessions of the Divisional Convention at Woodstock, Dorrigo and Muswellbrook.

Talks were given to other women's organizations including the Nahalah and Shoshonah Branches of Wizo; Double Bay View Club; Sydney B'Nai B'rith Women's Chapter; Mothers' Club of the East Ryde Primary School; a branch of the Voluntary Aid Detachment; and also the Church of Christ's Men's Fellowship.

(d) Maternal and Baby Welfare

Seven pre-natal clinics were attended weekly. Changing needs and numbers have necessitated a change in the clinics attended by the Dietitians. Manly, Liverpool, Granville, Parramatta, Seven Hills and Dee Why were the Clinics attended.

The three pre-natal diets were revised and printed.

(e) Clinic for overweight children

This clinic at Forest Lodge Child Health Centre has been maintained weekly.

(f) Enquiries

Many enquiries on all aspects of food and nutrition were received, especially on topics such as fats and oils and "fad" diets. The majority of requests for therapeutic diets were for weight reduction, coeliac disease and diabetes.

(g) Institutions

Work is still proceeding on the review of ration scales and food service standards in the State Prisons.

Twelve visits were made to three Nursery Schools of the Sydney Day Nursery Association to advise on the establishment of desirable food service standards.

A visit was made to Heathcote High School and a report given on the foods sold by the School Canteen.

The food service work for the State Mental Hospitals was transferred to the Division of Establishments.

(h) Survey Work

A survey was made of the Dietary habits of 700 young adults; including office workers, shop assistants; factory workers and apprentices in heavy industry; University Students and Trainee Teachers.

(i) Student Dietitians

Five dietetic students training at Royal North Shore Hospital spent two weeks in the Section, during which time a special programme was arranged for them, while a dietetic student from the Philippines and one from Fiji spent half a day each in the Section to learn of the nutrition work done by the State Health Department.

(j) Trainee Dietitians

Three trainee dietitians were working in the Section during the Christmas University Vacation. Various educational activities were arranged for them.

(k) New South Wales State Nutrition Committee

The executive and secretarial work of this Committee continued to be carried out and this entailed attending meetings; preparing minutes for the meetings; and any correspondence in connection therewith.

THE PHYSICALLY HANDICAPPED

Consultative Council for the Physically Handicapped—Annual Report, 1962

MEMBERSHIP

Mr. J. R. W. Danks continued as Chairman of the Consultative Council for the Physically Handicapped throughout the year.

The following changes in the membership of the Council occurred during the year:—

Dr. E. S. A. Meyers, Director of State Health Services, was appointed to be a member of the Council.

Dr. John Allsop, Dr. R. L. Stephen and Miss C. Gibson resigned their membership of the Council as they had found themselves unable to attend meetings.

Other appointments of new members, made by reason of a revision of the functions and activities of the Council, will be referred to in a later section of this report.

STAFF

Medical Officer and Secretary.

Occupational Therapist.

Shorthand-writer and Typist.

The only change in the staff of the Council during the year was that occasioned by the retirement from the Department of Dr. Mary Bertram who was succeeded as Medical Officer and Secretary by Dr. R. W. D. Maxwell as from 27th July, 1962.

REVISION OF THE FUNCTIONS AND ACTIVITIES OF THE COUNCIL

At the meeting of the Council held on the 7th June, 1962, which was attended by the Under Secretary, Department of Public Health, at the invitation of the Chairman, the Chairman stated that he felt that, with changing circumstances over the years of the Council's existence, its primarily important function as a consultative and advisory body had come to be overlooked. The Council had been set up to inform and advise the Minister for Health on all matters relating to the current problems and general needs of physically handicapped persons; whereas it appeared to have come about that time and services of specially qualified and experienced members of the Council were being largely given to discussion of details of individual applications from patients for the Council's assistance in providing domiciliary therapy. After a full discussion it was agreed that some reconstitution of the Council, and review of its functions and activities, was very desirable and a sub-committee consisting of Dr. J. C. Fulton and the Medical Officer and Secretary (Dr. M. Bertram) was appointed to prepare detailed proposals for further consideration.

The following recommendations of the sub-committee were adopted by the Council and approved by the Minister for Health:—

that two additional members be appointed to the Council, one a physician and one a member with specialist experience in rehabilitation, so as to bring the membership of the Council to nine, from whom a Chairman and Deputy-Chairman would be elected;

that three additional co-opted members be appointed, as representatives respectively of the Australian Physiotherapy Association, the Australian Association of Occupational Therapists, and the Australian Association of Social Workers.

The following appointments to these positions on the Council were subsequently made with the approval of the Minister for Health:—

Dr. G. G. Burniston as the additional member with specialist experience in rehabilitation;

Dr. T. M. Greenaway as the additional physician member;

Miss K. Ogilvie, representing the Australian Association of Social Workers;

Miss G. E. Sims, representing the Australian Association of Occupational Therapists;

Miss P. Wood, representing the Australian Physiotherapy Association.

At the meeting of the Council on the 1st November, 1962, Mr. J. R. W. Danks was re-elected as Chairman of the newly constituted Council and Dr. J. C. Fulton was elected as Deputy-Chairman, so that at the close of the year the membership of the Council was as follows:—

Members:—

Mr. J. R. W. Danks (Chairman).
Dr. J. C. Fulton (Deputy-Chairman).
Dr. G. G. Burniston.
Dr. T. M. Greenaway.
Dr. A. E. Machin.
Dr. E. S. A. Meyers (Director of State Health Services).
Dr. S. Scougall.
Dr. Keith Smith.
Dr. S. E. L. Stening.

C-opted Members:—

Mrs. J. Lee-Martin.
Miss K. Ogilvie.
Miss G. E. Sims.
Miss P. Wood.

Mrs. J. Lee-Martin is also a full-time member of the staff of the Council as Occupational Therapist.

MEETINGS

General meetings of the Council were held as usual throughout the year on the first Thursday of each month, excepting the month of January. Applications for assistance from the Council in providing domiciliary physiotherapy or occupational therapy were considered and reports on the progress of patients already receiving assistance were reviewed.

Topics of particular importance in their relation to the work of the Council which were discussed at meetings of the Council during the year were the outbreak of poliomyelitis in New South Wales during 1961-62, and the occurrence of congenital malformations in infants associated with the taking of the drug thalidomide by the mother during pregnancy.

Many persons disabled in varying degrees as the result of paralytic poliomyelitis in the course of the recent outbreak will now require assistance in their after-care and rehabilitation; while the group of infants and children severely disabled by congenital malformations produced by thalidomide—more particularly defects of the limbs—will present problems in specialised treatment and care, including the provision of artificial limbs, over prolonged periods and perhaps for the greater part of their lives. Consideration of the forms of assistance which may be needed by this particular group of children will involve consideration of the facilities at present available for the care of the wider group of congenitally deformed children as a whole.

ASSISTANCE GIVEN BY THE COUNCIL

During the year, 79 new applications for assistance to patients by payment of fees for physiotherapy were approved at meetings of the Council. The primary cause of disability in these cases was as follows:—

Paralysis or paresis from cerebral vascular lesions	25
Rheumatoid arthritis and osteoarthritis	14
Fractures and other injuries of limbs	12
Past poliomyelitis	7
Parkinson's disease	4
Multiple sclerosis	2
Osteoporosis	2
Friedrich's ataxia	1
Diabetic polyneuritis	1
Multiple myelomatosis	1
Pseudobulbar palsy	1
Chronic motor neurone disease	1
Others, such as disuse atrophy of muscles from chronic illness or hysteria	8
	79

Patients visited and treated by the Occupational Therapist during the year numbered 80, of whom 50 were new patients referred during 1962, while 30 were patients remaining under treatment since 1961. Causes of disability included paralysis or paresis from cerebral vascular lesions, poliomyelitis, rheumatoid arthritis, multiple sclerosis, amputations, fractures, paraplegia and Parkinson's disease. In a number of these cases patients were advised and assisted in the use of devices and equipment for self-help. The total number of visits made to patients by the Occupational Therapist during the year was 817.

REPRESENTATION ON OTHER ORGANISATIONS

The Medical Officer and Secretary continued as the delegate, and the Occupational Therapist as the alternate delegate, representing the Consultative Council for the Physically Handicapped on the Council of Social Service of New South Wales; and the Occupational Therapist continued to serve on that Council's Standing Committee on Employment Problems of Physically Handicapped Persons.

The Occupational Therapist also continued to act as representative of the Consultative Council for the Physically Handicapped on the Rehabilitation Co-ordinating Council of New South Wales.

Co-operation was also maintained with other organisations concerned with the care of the physically handicapped.

CONFERENCES AND MEETINGS

The Occupational Therapist attended the Second National Conference of the Australian Council of Social Service from the 28th May to the 1st June, 1962. The theme of the Conference was " Urban and Rural Communities Development ".

The Occupational Therapist also attended the Sixth Annual Meeting of the Old People's Welfare Council of New South Wales on the 30th August, 1962, and the Twenty-sixth Annual Meeting of the Council of Social Service of New South Wales on the 10th September, 1962.

On the afternoon of Sunday, 7th October, 1962, the Medical Officer and Secretary, at the invitation of the Australian College of General Practitioners (New South Wales Faculty), gave a short talk on the Consultative Council for the Physically Handicapped at a Medical Seminar on " Management of Patients with Certain Chronic or Recurrent Conditions " held at the Rehabilitation Unit, Prince of Wales Hospital.

On the 6th Novermber, 1962, the Occupational Therapist, at the invitation of Dr. J. C. Fulton, President of the New South Wales Branch of the Australian Institute of Hospital Administrators, spoke at the 29th Annual Conference for Hospital Executives on " Occupational Therapy through Community Resources ".

RADIO BROADCASTS

On the 6th November, 1962, the Medical Officer and Secretary, through the courtesy of the Council of Social Service of New South Wales, recorded a brief talk on the Consultative Council for the Physically Handicapped which was subsequently broadcast from A.W.A. Radio Station 2CH.

EQUIPMENT

Four bedside stands were donated by the Chairman and made a most useful addition to the Council's equipment.

CONCLUSION

It may finally be of interest to record that with the close of the year 1962 the Council completed the first 25 years of its existence, having had its origin in December of 1937 when the then Minister for Health appointed a " Consultative Council on Infantile Paralysis " consisting of the Infantile Paralysis Committee of New South Wales and a representative of the Hospitals Commission, Its object was to act as an advisory body on problems arising as the result of an epidemic of poliomyelitis which had commenced in New South Wales in October 1937. It was later felt that there was need for the activities of this Consultative Council to be extended beyond the limited field of after-care of past poliomyelitis patients so as to provide also for vocational training of a wider class of physically disabled persons. As a result, the Council was, in August, 1945, renamed the " Consultative Council for the Physically Handicapped ".

In 1957, the field of the Council's work was still further extended and the recent enlargement of the membership of the Council during 1962, with re-definition of its functions and activities, has been discussed in this report.

HEALTH DISTRICTS

The North Western Health District was officially opened by the Minister for Health on the 27th July, 1962. A separate report on the health work carried out in this District is given in the text of this Report.

Metropolitan Health District

STAFF

(As at 31st December, 1962)

Metropolitan Medical Officer of Health: Dr. A. Douglas, LL.B., M.B., Ch.B., D.P.H., D.T.M. & H.

Twelve Health Inspectors, and thirteen Food Inspectors.

The District covers an area of 982,042 acres and comprises thirty-five Municipalities, including the Cities of Sydney, Parramatta, Liverpool and Penrith; four Shires (Hornsby, Warringah, Sutherland and Baulkham Hills); and the Harbour of Port Jackson.

The population of the City of Sydney again declined. It decreased during the year from 172,202 at 30th June, 1961 to 170,600 at 30th June, 1962, a fall of 1,602. The density decreased from 24·05 to 23·82 persons per acre. Of the thirty-nine Local Government areas in the District the population increased in thirty-three and decreased in six. The decreases were slight, except in the City of Sydney (1,602) and the Municipality of Leichhardt, where the population declined by 401. The largest increases in the population occurred in Blacktown 5,195, Liverpool 3,306 and Fairfield 3,293.

The highest density of population was recorded in the Municipality of Waverley where the figure was 29·28 per acre.

Vital Statistics

The population of the District at 30th June, 1962, was 2,334,440; an increase of 41,764 over the figures for 1961.

There were 46,608 live births equal to a rate of 19·95 per 1,000 of population.

Deaths numbered 22,491 equal to a rate of 9·62 per 1,000 of population.

The four main causes of death were Diseases of the Heart (8,778), Malignant Neoplasm (3,246); Vascular Lesions affecting the Central Nervous System (3,034); and Accidents, Poisoning and violence (1,446).

Maternal deaths numbered 18, equal to a rate of 0·39 per 1,000 live births.

Deaths under one year of age totalled 944, equivalent to a rate of 20·25 per 1,000 live births.

Table I—Live Births and Deaths with Rates—1961 and 1962

Category	1961		1962	
	Number	Rate*	Number	Rate*
Live Births	46,818	20·43	46,608	19·95
Deaths	21,448	9·36	22,491	9·62
Males	(11,537)	....	(12,150)	....
Females	(9,911)	....	(10,341)	....

* Per 1000 mean population.

Table II—Infant and Maternal Mortality with Rates—1961 and 1962

Category	1961		1962	
	Number	Rate*	Number	Rate*
Infant Mortality	935	19·97	944	20·25
Maternal Mortality	22	0·47	18	0·39

* Per 1000 live births.

Table III—Selected Causes of Death 1961 and 1962

Cause of Death	1961		1962	
	Number	Rate*	Number	Rate*
Diseases of the Heart	8,093	3,709	8,778	3,957
Malignant Neoplasms	3,313	1,518	3,246	1,463
Vascular lesions affecting the Central Nervous System	2,972	1,362	3,034	1,368
Accidents, Poisonings and violence	1,355	621	1,446	652
Pneumonia	574	263	655	295
General Arteriosclerosis	322	148	320	144
Bronchitis	354	162	424	191
Nephritis and Nephrosis	210	96	193	87
Diabetes Mellitus	291	133	311	140
Hypertension without mention of heart disease	174	80	173	78
Ulcer of the stomach and duodenum	186	85	152	69
Senility	94	43	75	34
Tuberculosis	106	49	136	61
Infections of Kidney	179	82	195	88
Cirrhosis of liver	123	56	138	62
Influenza	13	6	36	16
Gastro enteritis and celitis, except ulcerative and diarrhoea of newborn	29	13	54	24
Alcoholism	28	13	42	19
Arthritis and rheumatism, except Rheumatic Fever	42	19	46	21
Syphilis and its sequelae	23	11	26	12

* Rate—per million of mean population.

Table IV—Communicable Disease Notifications with Deaths, 1961-1962

Disease	1961		1962	
	Cases	Deaths	Cases	Deaths
Acute anterior poliomyelitis	66	3	147	8
Ancylostomiasis	..	..	1	..
Ascariasis	7	..	7	..
Brucellosis	7	..	5	..
Rheumatic chorea	1	..	..	..
Dengue Fever	4	..	..	..
Diphtheria	2	..	..	..
Infectious Hepatitis	2,424	14	1,697	12
Infantile Diarrhoea	66	7	61	9
Leptospirosis	..	..	..	..
Meningococcal infection	11	10	17	10
Ornithosis	1	..	3	..
Paratyphoid fever	1	1	2	..
Typhoid fever	7	1	5	..
Puerperal fever	13	4	8	3
Rheumatic fever	22	5	11	4
Scarlet fever	125	..	132	..
Typhus fever	2	..	..	..
Tuberculosis	956	100	929	139
Virus encephalitis	16	8	10	8
Staphylococcal mastitis	7	..	1	..
Staphylococcal pneumonia	25	18	26	18
Staphylococcal infection in infants under 4 weeks of age	67	2	492	1
Total	3,830	173	3,554	212

COMMUNICABLE DISEASES

(a) Typhoid

In September, 1962, eighty-eight immigrants arrived from Hong Kong by sea. Two of these immigrants were admitted to Hospital, one suspect and one proven case of typhoid fever. After an initial three visits by a Medical Officer and a Departmental Inspector, all families were placed under the surveillance of their local Council's Health Department. Specimens were obtained and examined at the Institute of Clinical Pathology, Lidcombe. Ten of the immigrants were found to be carrying Salmonellae other than Salmonella typhi, but a later check of the Salmonella carriers showed no positive results.

(b) Infectious Hepatitis

The maximum number of cases and deaths was reached in 1961. Since then there has been a steady decline in cases and deaths. No real reasons for the rise and decline are readily forthcoming.

Year	Cases	Deaths
1959	1,040	12
1960	2,123	8
1961	2,424	14
1962	1,697	12

(c) Enteritis

A number of cases of Shigella and Salmonella enteritis were informally reported by arrangement with Public Hospitals. Investigations were then undertaken into home conditions and possible sources of infection.

ENVIRONMENTAL SANITATION

(a) Decentralisation

On 11th June, 1962, the Chief Health Inspector became responsible to the Metropolitan Medical Officer of Health for work carried out in the Metropolitan Health District. The Officers formerly detached for duty with the Metropolitan Medical Officer of Health were then returned to the Branch for general duty. Detailed work carried out in the Metropolitan Area is included in the Report of the Health Inspection Branch.

Numerous complaints were received, a large proportion being connected with unhealthy conditions brought about by unsatisfactory drainage disposal, or with inadequate and insanitary dwellings.

(b) Water Pollution and Beach Pollution

Despite a staff shortage, a considerable advance was made in reducing stream pollution, particularly in the Georges and Cooks Rivers. Inspections were made on 69 occasions and sampling carried out at many points in an endeavour to locate major sources of pollution. Local Authorities were then requested to require the abatement of nuisances likely to cause stream pollution, and to continue with the sampling programme. The considerable pollution of the Georges River led to the closing of four bathing places in one area (Bankstown). The situation generally is now gradually improving.

An investigation into the question of beach pollution at Bondi, Bronte, Tamarama, Coogee and Maroubra was carried out. A sampling programme was adopted and is being continued with the co-operation of the Local Authorities and other Governmental agencies.

(c) Inspection of Government Institutions

During the year regular inspection of Institutions controlled by the Child Welfare Department and the Prisons Department became the responsibility of the Branch. These inspections were in addition to inspections of this Department's State and Mental Hospitals.

In the Metropolitan Area there are:—

11 State and Mental Hospitals.
20 Child Welfare Institutions.
2 Prisons Department Institutions.

(d) Septic Tanks

The number of applications for septic tank installations increased from 5,968 in 1961 to a very high level of 7,101 in 1962. Site inspections totalled 9,382 and led to refusal of 654 applications. Many applications were dealt with on the basis of an initial refusal, the applicant being advised to submit an amended application which was subsequently recommended for approval.

(e) Legal Proceedings

It became necessary to institute legal proceedings in 24 cases. All were successfully prosecuted in the Courts of Petty Sessions and resulted in fines being imposed to a total amount of £239 plus £24 Court costs.

(f) Staff Meetings

A meeting of Health Inspectors at Head Office was held under the Chairmanship of the Metropolitan Medical Officer of Health.

PURE FOOD BRANCH

On the 11th June, 1962, the Chief Food Inspector became responsible to the Metropolitan Medical Officer of Health for the work of the Pure Food Branch performed in the Metropolitan Area. A detailed record of this work appears in the Report of the Chief Food Inspector.

A total of 8,931 food and drug samples were taken during the year, including 2,328 milk samples and 5,685 meat samples. Arising out of these samples there were 172 warning letters issued for adulteration of meat and 545 prosecutions were instituted in this connection.

Of the 2,328 milk samples 22 samples resulted in warning letters being issued and 46 prosecutions were undertaken.

There were approximately 64 tons of food and drugs seized as unfit for human consumption including 32 tons of fish, 5 tons of drugs and 12,819 head of poultry.

Inspections totalling 9,691 of premises used for the preparation sale and storage of food were carried out, resulting in 355 warning letters being issued and 25 prosecutions were instituted.

For general breaches of the law, other than unclean premises, there were 220 prosecutions including smoking on food premises, food exposed to dust or contamination, and cockroach or fly infestation.

Newcastle Health District—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Medical Officer of Health: Dr. H. R. Dugdale, M.B., Ch.B., D.P.H.

Deputy Medical Officer of Health: Dr. C. K. Newman, M.D., D.P.H., D.T.M. & H.

One Psychiatrist; three School Medical Officers; one Psychologist; one part-time Ear, Nose and Throat Specialist; one Senior Health Inspector; one Senior Food Inspector; one Speech Therapist; one Social Worker (resigned 24-8-62); three Assistant Health Inspectors; one Nurse Inspector; seven School Nurses; five Tuberculosis Nurses; one Chief Clerk; three Office Assistants.

EXTENT OF THE DISTRICT

The Newcastle Health District comprises nine Municipalities, of which Newcastle City is by far the largest, and fourteen Shires.

It extends from the Hawkesbury River in the South to the Macleay Shire boundary in the North where it meets the North Coast and North Western Health Districts.

The Western Health District forms the inland boundary.

VITAL STATISTICS—1962

Population—The estimated population of the district at 30th June, 1962, was 474,590.

Live Births—There were 10,153 live births in the district, equivalent to a rate of 21·39 per 1,000 of population. Of these 5,185 were males and 4,968 females.

Deaths—Deaths numbered 4,818, equivalent to a rate of 10·15 per 1,000 of population. Of these 2,824 were males and 1,994 females.

Infantile Mortality—Deaths under one year of age numbered 240, equivalent to a rate of 23·64 per 1,000 live births.

Of the total number of deaths of infants under one year of age 157 or 65·42 per cent. occurred within one week of birth, and 180 or 75·00 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 15·46 and 17·73 respectively.

Still Births—There were 149 still births in the district equal to a rate of 0·31 per 1,000 of the population and representing 1·45 per cent. of all births (live and still).

ENVIRONMENTAL HYGIENE

A. Special Surveys

An investigation of conditions in Lake Macquarie Shire with special reference to garbage disposal was completed in the early part of the year.

A sanitary survey of the City of Greater Cessnock was completed in December.

B. Local Authority Liaison

A satisfactory outcome was achieved in a disagreement between the Hunter District Water Board and the Lake Macquarie Shire Council concerning the overflow of sewage into Cold Tea Creek. The Board eventually agreed to pump the sewage to an ocean outfall.

An outbreak of Infectious Hepatitis at Merriwa stopped when the local dairyman was instructed in dairy hygiene and ceased to use a contaminated water supply. Efforts to induce the Council to employ a full time Health Inspector, have not, so far, been effective.

Septic tank applications are now being dealt with at the rate of about 150 a month, the majority being from the area South of Newcastle. By maintaining, as far as possible, a fixed rota of visits many of the sites are seen before the plans are forwarded for approval.

Septic tanks approved	1,791
Septic tanks not approved	54
Inspections of Unhealthy Building Land	130

INFECTIOUS DISEASES

Disease	1961		1962	
	Cases	Deaths	Cases	Deaths
Infectious Hepatitis	584	2	418	3
Scarlet Fever	11	..	21	..
Infantile Diarrhoea	32	3	19	4
Virus Encephalitis	1	1	7	..
Poliomyelitis	5	1	25	..
Typhoid Fever	..	..	1	..
Chorea (Rheumatic)	..	..	1	..
Puerperal Pyrexia	9	4	5	..
Meningococcal Infection	6	2	7	2
Diphtheria	11	1	3	1
Leptospirosis	..	..	1	..
Brucellosis	..	..	1	..
Ornithosis	..	..	..	..
Ancylostomiasis	1	..	3	..
Ascariasis	..	..	16	1
Rheumatic Fever	7	2	7	3
Staphylococcal Mastitis	2	..	1	..
Staphylococcal Pneumonia	3	1	4	4
Staphylococcal Diseases in Infants	66	10	8	..
Tuberculosis	1	..	193	28
Total	739	27	641	46

A. Infectious Hepatitis

247 cases were notified during the first and second quarters of the year mainly from the Lake Macquarie Shire but sporadic cases were occurring to the North and West of Newcastle. In the September quarter 89 cases occurred 41 coming from Merriwa in a period of 35 days. Mention has already been made of this outbreak. 88 cases were notified in the last quarter affecting for the first time this year Wyong and Gosford Shires.

B. Diphtheria

On June, 26th a boy of 9 ill for about three days was found dead in bed. No doctor had attended. Post Mortem showed evidence suggesting laryngeal diphtheria which was subsequently confirmed bacteriologically.

Two other children in the same family were treated as clinical diphtheria and the mother was considered to be a "carrier". The family was isolated and treated in Maitland Hospital. None of them had ever been immunised.

C. Poliomyelitis

Thirty cases were notified during the year, 23 in the first quarter 10 of which occurred in March. Sixteen of the cases had never been immunised and in twelve there was doubt and they had not completed the course. Four cases were found not to be polio, two of them had been fully immunised. There was one death of a male aged 27 years.

SCHOOL MEDICAL SERVICE

A. Child Health Centre

Case Load

(*a*) New cases referred during 1962	440
(*b*) Cases from 1961, continued to 1962	166
(*c*) Old cases re-opened (not included in (*a*))	20
Total case load for 1962	626
(*d*) Cases closed during 1962	447
(*e*) Cases attending and continuing to 1963	89
(*f*) Waiting List (new cases referred but not seen)	90

Age Groups (new cases only)

	Boys	Girls	Total
0—5	36	13	49
6—11	147	68	215
12—15	71	46	117
15—+	34	25	59
			440

Referring Agencies (new cases only)

1. Personal application by parent etc.	57
2. Children's Courts	28
3. Department of Child Welfare	28
4. Education Department	67
5. Social Agencies, Hospitals, etc.	29
6. Private Practitioners, Psychiatrists, etc.	107
7. School Medical Service (M.O.'s Nurses)	111
8. Speech Therapists	13
	440

Diagnostic Categories (closed cases only)

(*a*) Developmental disorders—e.g. Mental defect	44
(*b*) Organic Syndrome—e.g. Brain damage	26
(*c*) Reactive to environment—e.g. Management training problems, etc.	179
(*d*) Disturbed social behaviour—e.g. Delinquency	42
(*e*) Psychoneurotic disorders	134
(*f*) Psychotic disorders	10
(*g*) Not included above (specific learning disabilities)	12
	447

Interviews (in respect of total case load)

Psychiatrist:

		Parent	Child	Total
Intake, diagnostic (new cases)			324	324
Reviews, follow-up, etc.			212	212
Therapy—Child	817			
Parent	506			
Group	Nil			

Psychologists:

		Parent	Child	Total
Diagnostic testing			289	289
Follow-up interviews, etc.			12	12
Therapy—Child	470			
Parent	20			
Group	1 family.			

Social Workers:

		Parent	Child	Total
Intake (new cases)		116		116
Reviews, follow-up, etc.		125		125
Therapy—Child	—			
Parent	5			
Group	—			
Home, school visits, etc.		1		1

RESULTS OF TREATMENT (closed cases only)

(*a*) Diagnostic only; treatment not required or not offered	193
(*b*) Treatment offered but declined, failed to attend etc.	62
(*c*) Treatment given but results unsatisfactory	45
(*d*) Treatment given, symptomatic improvement	135
(*e*) Treatment satisfactory; good readjustment	12

The Social Worker paid visits to Singleton Girls' Home and attended Social Workers' Conference in Sydney.

The Psychologist spent one week in Sydney with Dr. Szechel at Brisbane Street Child Guidance Clinic and she also went to Wauchope and Taree with the School Medical Officer to test country cases.

Undergraduate Psychologists have attended this Clinic for experience and one was doing research on Home Backgrounds and Stammers. The Newcastle Hospital Psychiatric Resident always attends for one session.

Miss Pearson of the Child Welfare Department visited the Clinic.

Monthly clinical meetings attended by the School Medical Officers, Psychologists and two Paediatricians were held on various subjects throughout the year.

The annual meeting, convened by Dr. Stains of University College, Newcastle, was held to discuss areas of research and co-operative work for the Clinic and the University for 1963.

The Clinic requires more space and increased staff.

Also facilities for inpatient treatment for short term patients is urgently required, as there is no suitable accommodation for pre-adolescents and adolescents with psychiatric disorders in this city.

Few cases have been taken on for long term therapy since December as the Clinic is closing in February.

B. Speech Therapy Clinic

No. of cases seen—current + re-admits	84
follow up admits	28
	112
No. of individual attendances	1,283

C. Hearing Clinic

No. of Clinics held	56
No. of children examined	589

D. Medical Inspection in Schools

Examinations (full)	9,832
Reviews	7,618
Parent Interviews	1,446
Schools completed	139

The Child Health Centre in Newcastle was severely handicapped in 1962 owing to staff shortage. Dr. Coulthard was on leave for the whole of the 3rd term, and the School Medical Programmes were not completed. Attempts were made to find a temporary replacement for her, but without success.

The other two School Medical Officers consequently had little time to spare for Child Health Centre work.

Dr. Duncan has devoted one day a week for this purpose, organising the school programmes for School Medical Officers and Sisters, co-ordinating the work of the various clinics in the Centre, establishing relations with the Child Welfare Department, Education Department, Dental Clinic at Adamstown, Royal Newcastle Hospital, Youth Employment Bureau, Maitland P. & C., Baby Health Centres, Catholic Welfare Service and other organisations.

An increasing amount of psychological counselling has been done at the Centre by all three School Medical Officers, with cases followed up from school, or referred from the Child Guidance Clinic, Speech Therapy, Hearing Clinic, teachers, General Practitioners and many of the above-mentioned organisations.

During the school holidays, 57 children attending the Speech Therapy, or on the waiting list, were examined by the School Medical Officers and full medical and environmental histories taken.

The Centre contributed to a Seminar on Deaf Children held at Royal Newcastle Hospital with a session on the role of the School Medical Service in the detection of the deaf child.

The School Sisters have played an increasingly important part, not only in their school inspection work, but also in facilitating and co-ordinating the work of the School Medical Officers, so that the time spent by the latter in schools is utilised to the best possible advantage. The Sisters have been diligent in follow-up work, and have shown considerable initiative in finding and bringing to the attention of the School Medical Officers cases of medical and social needs. Two of the Sisters at different times assisted Dr. Tarleton in School Medical Inspection in the Shires.

Country Councils' Scheme

Examinations (full)	14,869
Reviews	177
Parent Interviews	546
Schools completed	217

Medical inspection of school children were carried out in 15 Shires and Municipalities, almost all being full examinations and attended by all children available at the time. The number of refusals was negligible.

In 11 Shires and Municipalities namely Gloucester, Kempsey, Macleay, Manning, Merriwa, Port Stephens, Scone, Taree, Wingham and Muswellbrook Shire and Municipality, the work was completed whilst examinations in four areas, namely Gosford, Lake Macquarie, Stroud and Wyong Shires are still in progress.

18 Medical practitioners took part in the work, 13 of whom are engaged in general practice and therefore unable to spare more than an occasional session, thus unduly delaying completion.

The remaining five practitioners are retired so that in fact they carried out the greater majority of examinations. The work of this latter group appeared to be more uniform and of a higher standard.

PURE FOOD ADMINISTRATION

Representation made to two Councils and an exhibition of diseased meat seized from shops in their districts achieved the appointments of full time Meat Inspectors.

As a result of copies of the notices served on the occupiers of food premises being sent to the local Health Inspectors considerable interest and a real measure of co-operation is being achieved in a number of Districts. Notices served have more than doubled as compared with last year and while prosecutions have also increased only 14 of them were in the old Hunter District area. This unfortunately does not indicate a greatly superior standard of hygiene around Newcastle but merely that the added areas and extraneous duties such as inspection of Institutions have absorbed so much of the Inspector's time. Food sampling has fallen for the same reason.

	1962	1961
Food samples	642	849
Inspections	1,338	1,275
Notices	307	142
Complaints	60	57
Food seized and destroyed	9,768 lb.	22,000 lb.
Prosecutions	56	40
Fines and costs	£530	£374

TUBERCULOSIS CONTROL

There are seven Chest Clinics in the area and patients are also seen at the Maitland Hospital. 490 Clinic sessions were held with a total attendance of 9,556. 3,885 visits were made to homes.

MATERNAL AND BABY WELFARE

There are 56 Baby Health Centres in the Area virtually all of which had been seen at least once by the Nurse Inspector who was appointed in June. 11,884 babies made 104,412 attendances at the Centres during the year.

An Ante-natal Clinic was established at Cardiff Baby Health Centre on 18th December.

PRIVATE HOSPITALS AND REST HOMES

Six Private Hospitals and eleven Rest Homes were visited during the latter part of the year. Proposals for the modification of two buildings for Rest Home purposes were presented for decision.

MISCELLANEOUS

A. Fluoridation of Water Supplies

Four Districts North of Newcastle have asked for assistance in the preparation of a scheme to treat their water supplies, no decisive action has yet taken place in the Newcastle area.

B. Medical Examinations

A Medical Board consisting of Dr. J. F. White and the Medical Officer of Health examined 69 cases during the year.

Lantern test for Pilots previously performed in the Health Office for lack of other suitable accommodation are now being done by the Government Medical Officer.

C. Public Relations

The Department is represented on the Air Pollution Committee of the Newcastle City Council, on the Health Week organisation and in the Civil Defence Service. The Medical Officer of Health is the Honorary Hygiene Consultant to the Royal Newcastle Hospital.

Meetings of District Health Officers and other assemblies particularly in the Child Health field have been addressed by members of the Department. Two of the staff have part-time teaching appointments at the Newcastle Technical College.

South Coast Health District—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Medical Officer of Health: Edgar Charles Moreland Wallace, M.B., B.S., D.P.H.

Deputy Medical Officer of Health: Bernard Joseph Green, M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H., D.T.M. & H.

Two School Medical Officers; two School Sisters; three Tuberculosis Sisters; one Senior Pure Food Inspector; one Senior Health Inspector; two Health Inspectors; one Speech Therapist; one Assistant Nurse Inspector; one male clerk; four office assistants.

Following the gradual decentralization of responsibilities of certain aspects of the Department's activities it was seen fit to increase the staffing establishment in the year by a Speech Therapist; a Health Inspector; an Assistant Nurse Inspector and an Office Assistant.

VITAL STATISTICS, 1962

Population—The population of the district at 30th June, 1962 was estimated at 295,480.

Live Births—There were 7,238 live births equal to a rate of 24·50 per 1,000 of population. Of these 3,775 were males and 3,463 females.

Deaths—Deaths numbered 2,256, equivalent to a rate of 7·64 per 1,000 of population. Of these 1,309 were males and 947 females.

Infantile Mortality—Deaths under one year of age numbered 163, equivalent to a rate of 22·52 per 1,000 live births.

Of the total number of deaths of infants under one year of age 103 or 63·19 per cent. occurred within one week of birth and 115 or 70·55 per cent. within the first month. The corresponding rates per 1,000 live births for the two age-groups were 14·23 and 15·89 respectively.

Still Births—There were 94 still births equal to a rate of 0·32 per 1,000 of population and representing 1·28 per cent. of all births (live and still).

ENVIRONMENTAL HYGIENE

The Health Inspectors were able to carry out a number of surveys covering the overall health responsibilities of Local Authorities as well as a number of special surveys.

Sanitary surveys of the Shire of Mumbulla and the Municipality of Bombala were undertaken. Appropriate recommendations designed to improve the conditions of these areas have been sent to these Authorities for their guidance and attention.

Following a sanitary survey and other investigations of the Eurobodalla Shire and the Municipality of Queanbeyan, representatives from this Office attend Council meetings to discuss the insanitary conditions observed and the means of implementing Departmental requirements.

A drainage survey of the unsewered area of Berkely, City of Greater Wollongong revealed numerous problems associated with the disposal of household waste waters. A detailed report of the survey was submitted to Head Office with the recommendation that the matter be discussed with the Housing Commission.

Further investigations were made of drainage problems associated with the rapid and extensive development occurring in the Alpine Villages in the Kosciusko State Park Trust. Considerable improvements have resulted from the recommendations made.

Surveys were also made of a number of caravan parks and camping areas, particularly at coastal resorts. Owing to the lack of santitation facilities, such sites were generally unsatisfactory. Appropriate recommendations were sent to the respective Councils for their attention.

Conditions found at noxious trade premises in the majority of Local Government areas showed that they had not enforced the provisions of the Noxious Trades Act and its Regulations. Recent enquiries indicate that conditions imposed on certain licensees by the Board of Health have now been satisfactorily complied with.

Prosecutions resulted in the following fines:—

(*a*) Failing to maintain clean premises	Fine £5, costs £1
(*b*) Failing to boil putrescible matter	Fine £5, costs £1
(*c*) Failing to cover nightsoil	Fine £9, costs £1 5s.

Regular inspections of all Government Institutions in the District are now being made and detailed reports regarding sanitation and structural conditions are being referred to Head Office for attention.

Inspections made included three Departmental Hospitals, two gaols, two Child Welfare Institutions and three Aboriginal Welfare Stations.

There has been some improvement in the general standard of hygiene in the South Coast Health District. This is attributable to some extent on an additional Health Inspector having been appointed.

TABLE I

Routine Inspections and Investigations—South Coast Health District	1961	1962
Noxious Trades Act	147	329
Premises (Public Health Act)	24	304
Water Supplies, Sewage and River Pollution (Public Health Act)	232	52
Inspections of Septic Tank Sites—		
New	2,818	1,857
Existing	81	258
Number of applications received	2,646	1,967
Inspections of Sanitary Depots, proposed sites and proposed extensions	136	160
Investigation of Complaints	131	77
Inspections of public amenities—camping areas, parks, reserves and conveniences, swimming pools	100	120
Inspections of reclamation area, proposed garbage reclamation area and extension to scavenging district	4	3
Inspection of Yard areas, closets, etc.	..	317

A one day conference of Health Inspectors employed by Local Authorities in the District was held at Goulburn. It was well attended and provided a useful means of discussing health problems.

COMMUNICABLE DISEASE

TABLE II—NOTIFICATION OF COMMUNICABLE DISEASES AND DEATHS—SOUTH COAST HEALTH DISTRICT—1961-1962

Disease	1961		1962	
	Cases	Deaths	Cases	Deaths
Ascariasis	..	..	1	..
Brucellosis	..	..	..	..
Virus Encephalitis	2	..	1	..
Diphtheria	..	..	..	..
Infantile Diarrhoea	9	4	4	3
Staphylococcal Pneumonia	8	7	5	5
Staphylococcal Infection (in infants under 4 weeks)	1	1	..	..
Scarlet Fever	14	..	17	..
Rheumatic Fever	3	1	2	2
Puerperal Infection	6	1	8	1
Meningococcal Meningitis	4	3	5	1
Infectious Hepatitis	345	5	222	1
Acute Anterior Poliomyelitis	52	7	11	3
Tuberculosis	129	14	99	18
Leptospirosis	..	..	1	..
Total	573	43	376	34

Comment

Of the cases of poliomyelitis reported all but two occurred in the first quarter of the year. In all, the diagnosis was confirmed in seven cases, two of which were fatal. One of the fatal cases was a woman aged 31 years who had received three injections of poliomyelitis vaccine. Her death produced a sharp rise in the public demand for immunisation.

Infectious hepatitis continues to decline and the peak of the infection may be said to have been passed although it is safe to assume that notification is not as complete as it might be.

No diphtheria cases were notified for the year.

Immunisation is carried out energetically in the district by local authorities. Especially is this so in the Wollongong area where the Council of the City of Greater Wollongong has established numerous immunisation centres where clinics are held at regular monthly intervals, immunisation being given against poliomyelitis, pertussis, diphtheria and tetanus.

The provision by this Office of single doses of Salk vaccine as a service to local practitioners was carried out through the year. Almost 5,000 doses were distributed.

Notifications for tuberculosis show a decrease (99 cases for 1962 compared with 129 for 1961). However the Department's mass X-ray survey units which surveyed part of the District in the last quarter of the year disclosed a further 56 new cases.

SCHOOL MEDICAL SERVICE

The preliminary examination of all schools in the area (Wollongong-Shellharbour-Kiama) covered by the Department was completed.

A Speech Clinic was established in February and has continued to function at full capacity throughout the year.

A Hearing Clinic has been approved in principle. Accommodation for the Clinic has been provided by the Education Department in the Wollongong Public School adjacent to the Speech Clinic. As soon as the necessary structural alterations can be made the Clinic will begin to function.

The establishment of a full-time office assistant for the School Medical Service was approved but the first appointee resigned after four month's service.

The Shire Scheme started badly as record cards were not available for distribution until May with the result that some authorities were unable to obtain doctors' services. A few authorities, having begun to work the scheme, later abandoned it for various reasons. But on the whole the scheme worked well.

The necessity for improved sanitation in schools has been pressed upon the Education Department wherever the need was felt. The Department has co-operated wholeheartedly and extensive works have been approved or are under consideration.

The service suffers from the absence of Child Guidance facilities and from the lack of proper Out-Patient consultant services at Wollongong Hospital. However, the hospital has arranged for necessitous children to receive ophthalmic and otolaryngological investigation.

The following tables summarises the year's work:—

TABLE III

Schools Examined	Full Exams	Reviews	Parent Interviews	Defects found at full and review examinations			
				Speech	Eye	Ear	Others
Department Service— 50	8,292	4,791	593	54	426	315	394
Council Scheme— 110	7,900	4,078	486	1	605	341	975

TABLE IV—SPEECH CLINIC

First Interviews	100
Review Interviews	70
Admitted or readmitted to treatment	47
Discharged (including failures to continue treatment)	42
Admitted to follow up treatment	64
Follow up cases discharged	20
Individual attendances at Clinic	996
Visits to schools by Speech Therapists	19

There are now 100 cases awaiting first interviews as against 283 at the end of March, 1962, the School Medical Officers having reassessed many of those who had been on the waiting list for a considerable time.

PURE FOOD ADMINISTRATION

A large increase in the number of prosecutions undertaken as compared with the previous year was due to a much greater percentage of adulteration and to an increase in the number of samples taken.

The adulteration was noted mainly amongst meat products. At present, with the establishment of one Pure Food Inspector, it is not possible to carry out the regular sampling required and it is evident that the traders cannot be relied upon to comply with the Law of their own accord.

TABLE V—PURE FOOD INSPECTIONS—SOUTH COAST HEALTH DISTRICT, 1962

	1961	1962
Food Factories	57	81
Butchers Shops	..	220
Fish shops, depots	3	50
Cafes, restaurants	115	187
Pharmacies	15	50
Slaughterhouses, abattoirs	33	8
Canteens, mess halls	4	19
Hotels	63	26
Vehicles	..	58
General Food premises	805	518
Total	1,095	1,217

TABLE VI—PURE FOOD INSPECTIONS—SOUTH COAST HEALTH DISTRICT—1962

	1961	1962
Complaints Investigated	22	18
Warning Notices issued	50	84
Food and drug samples for Analysis	239	429
Food and articles seized and destroyed	N/K	260

TABLE VII—SUMMARY OF PROSECUTIONS, SOUTH COAST HEALTH DISTRICT, 1ST JANUARY, 1962 TO 31ST DECEMBER, 1962

Pure Food Act	No. of Cases	Fines and Costs
		£ s. d.
Adulterated food	75	625 10 0
General breaches—Act and Regulations	15	152 0 0
Total	90	777 10 0
Local Government Act—Ordinance 39	1	6 0 0
Total prosecutions	91	783 10 0
(Total 1961)	26	221 5 0

TUBERCULOSIS CONTROL

The mass X-ray and skin testing teams have been operating in the Wollongong, Shellharbour areas from the beginning of October, 1962.

Redistribution in May, 1962 of three sub-clinics from Wollongong to Goulburn clinic has evened the work load between the Sisters.

Movement of the Wollongong Clinic at the end of the year to larger quarters is a temporary improvement, but by no means an adequate one. However, action is well on the way for the creation of a separate chest block and this will overcome the present problem of insufficient in-patient accommodation.

A summary of work performed at the various clinics and sub-clinics is as follows:—

TABLE VIII—SUMMARY OF WORK CARRIED OUT AT TUBERCULOSIS CLINICS—1962

	Wollongong	Shoalhaven	Goulburn	Moruya	Bateman's Bay	Bega
Names on Register	2,604	215	483	89	25	432
Attendances	4,386	301	966	87	23	639
New Patients	415	13	15	8	1	5
Old Patients	942	108	117	15	7	51
New Contacts	474	24	224	9	2	220
Old Contacts	789	62	159	35	12	142
X-rays	2,139	198	437	71	17	294
No. of visits	631	114	339	14	7	100
B.C.G. Vaccinations	64	..	..	..	..	..
Mt. Skin Tests	341	102	362	24	4	92

MATERNAL AND BABY WELFARE

Following the appointment of an Assistant Nurse Inspector early in the year the day to day administration of the Baby Health Centres devolved upon the District Office.

All 47 Centres have been examined and all with a few minor exceptions have been brought up to the required standard.

A new centre was opened at Warrawong and the old centres at Shellharbour and Berry were replaced by modern units.

Six talks were given by Baby Health Centre sisters over the local television system.

MENTAL HEALTH

A Recovery Group (for rehabilitation of the Mentally Ill) was formed in Wollongong in October, 1962. The group consists mostly of people who had been referred to the Medical Officer of Health by the Smith Family and other Social agencies. The group has met weekly since its formation and has been of great benefit to its members.

Assistance was given to Organisations formed to help the intellectually handicapped. These included the Greenacres Day School for training and teaching intellectually handicapped children, the Aid Retarded Persons Association which plans to set up a Sheltered Workshop in Wollongong to give useful employment to the intellectually handicapped, and the Mineral Springs Lodge at Picton which is a training home for intellectually handicapped boys of 16 years and over. Experience with this type of work emphasises the importance of giving departmental assistance to people who dedicate themselves to the work of helping the handicapped.

CIVIL REHABILITATION

The Medical Officer of Health accepted an invitation to join the Civil Rehabilitation Committee, an organisation which aims to assist released prisoners and the families of prisoners still serving their sentence. Over a period of several monthly meetings, a considerable amount of help was extended to such families and suitable accommodation and employment found for ex-prisoners.

HEALTH EDUCATION

From time to time talks on Health subjects are given over the local radio or on television or to groups of interested people. Health articles were also given to the press. Subjects include such topics as the mass chest X-ray survey, pollution of water supplies, holiday hazards, mothercraft and baby care, Mental Health.

MISCELLANEOUS

A total of 128 medical examinations were made of candidates for permenant appointment, casual teachers etc. as compared with 162 during 1961.

Western Health District—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Medical Officer of Health:—Dr. T. F. Rennie, M.B., Ch.B., D.P.H.

Deputy Medical Officer of Health (vacant).

One Senior Health Inspector; one Senior Food Inspector; two Health Inspectors; one Assistant Nurse Inspector; one Clerk Grade 1; one Office Assistant.

Dr. E. C. Wallace, Medical Officer of Health, Western Health District transferred to the post of Medical Officer of Health, South Coast Health District on 11th July, 1962, and was succeeded by the Deputy Medical Officer of Health, Western Health District Dr. T. F. Rennie.

DECENTRALISATION

In May, 1962, further decentralisation took place when the activities of the Division of Maternal and Baby Welfare in the Western Health District were placed under the control of the Medical Officer of Health. An Assistant Nurse Inspector was appointed in May, 1962.

VITAL STATISTICS

Population—The population of the District at 30th June, 1962 was estimated at 273,670.

Live Births—There were 6,977 live births equivalent to a rate of 25·49 per 1,000 of population. Of these 3,498 were males and 3,479 females.

Deaths—Deaths numbered 2,511 equivalent to a rate of 9·18 per 1,000 of population. Of these 1,478 were males and 1,033 females.

Infantile Mortality—Deaths under one year of age numbered 163 equivalent to a rate of 23·36 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 96 or 58·90 per cent. occurred within one week of birth and 105, or 64·42 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 13·76 and 15·05, respectively.

Still Births—There were 103 still births, equal to a rate of 0·38 per 1,000 of population and representing 1·45 per cent. of all births (live and still).

ENVIRONMENTAL HYGIENE

A survey of Farmer's Creek near Lithgow was commenced in an attempt to find the cause of pollution of the water. Repeated samples were taken along the course of the creek. The survey is continuing.

A survey of Collarenebri was carried out in January to see if recommendations in a report on an epidemic of an unidentified infectious disease, which had occurred in the town in 1961, had been carried out. It was found that all but two recommendations had been carried out. These two recommendations concerned potential sources of pollution of the water supply. Further recommendations were made following the recent survey.

Joint Inspectors with Officers of the Department, Officers of the Public Works and Officers of the Blue Mountains City Council were made of the sites of the proposed High School, Emu Plains and the Prison Farm, Emu Plains. Recommendations concerning the disposal of effluents in both areas were made to the Board of Health.

TABLE I—ENVIRONMENTAL HYGIENE INSPECTIONS CARRIED OUT—1961-1962

Inspections carried out	1961	1962
Septic Tanks and Closets	977	762
Sewerage Treatment Works and Communal Sullage Scheme	97	115
Garbage and Sanitary Depots	70	129
Noxious Trades	175	131
Abattoirs	11	5
Complaints and Nuisances	62	47
Water Supplies	95	35
Swimming Pools	67	50
Food Premises	80	43
Inspections of Premises, Halls and Hotels	72	27
Aborigine Stations	..	18
Infectious Disease Investigations	..	2
Miscellaneous Activities	48	55

COMMUNICABLE DISEASES

TABLE II—NOTIFIED COMMUNICABLE DISEASES AND DEATHS—1961-1962

Disease	1961		1962	
	Cases	Deaths	Cases	Deaths
Infectious Hepatitis	212	2	281	1
Diphtheria	..	..	2	..
Meningococcal Meningitis	5	2	2	1
Rheumatic Fever	4	..	4	..
Scarlet Fever	17	..	74	1
Anterior Poliomyelitis	3	..	14	1
Dengue Fever	..	..	7	1
Virus Encephalitis	3	1	11	2
Infantile Diarrhoea	2	2	11	3
Tuberculosis	38	6	85	13
Staphylococcal Pneumonia	3	3	2	2
Puerperal Infection	7	1	5	..
Staphylococcal Disease in infants under four weeks	..	..	3	..
Total	294	17	501	25

During the year several unusual outbreaks of infectious disease were investigated which are commented on below.

In January, seven cases notified as Dengue Fever, were investigated at Nyngan. It was probable that these were not cases of Dengue Fever as all the mosquitoes caught in the area and sent to the School of Public Health and Tropical Medicine, Sydney, for typing were identified as species that do not carry Dengue Fever.

Again in January, an outbreak of "Q" fever at a large abattoir in Orange was also fully investigated. Eleven cases of "Q" fever were serologically proved but it is likely many more cases occurred. The source of the disease could not be traced.

In February, a case of suspected small pox was notified from Lake Cargelligo. Fortunately this case proved to be merely an allergic skin reaction.

In July, a case of trachoma in an Aboriginal girl from Walgett Aborigine Station was notified. Examination of all contacts revealed three other cases of the disease. These four cases were treated at Sydney Eye Hospital. Prophylactic treatment of the inhabitants of the Aborigine Station was carried out and no further cases were reported.

Routine nasal swabbing of a leprosy contact first gave a suspected positive result for m. leprae. Further nasal swabs, however, were negative, and it is now thought this contact was not infected.

Fourteen cases of acute anterior poliomyelitis were reported in the first six months of the year but none subsequently. These cases were part of a State wide epidemic of acute anterior poliomyelitis. The Western Health District was not seriously affected by this epidemic.

SCHOOL MEDICAL SERVICE

In 1962, nine Local Authorities in the Western Health District carried out School Medical examinations in their areas. Sixty schools were inspected.

There is one part-time Departmental School Medical Officer at Bathurst. Work carried out during the year was as follows:—

TABLE III—SCHOOL MEDICAL EXAMINATIONS—1962

Category	Full exam.	Review	Parent interview	Total Examined
Departmental	1,005	508	66	1,513
Shires	3,380	1,810	242	5,190
Total	4,385	2,318	308	6,703

Medical Practitioners in the following areas were briefed as to procedure prior to undertaking school medical work; Walgett Shire, Goobang Shire, Gilgandra, Rylstone and Parkes.

Negotiations were also completed between the Department of Education and the Department of Public Health for the examining of children from outlying schools in Abercrombie Shire in a school in Bathurst. This is a new procedure and should start early in 1963.

PURE FOOD ADMINISTRATION

TABLE IV—PURE FOOD INSPECTIONS, SEIZURES, PROSECUTIONS AND FINES—1962

Category of Work carried out	Number
Inspections and Complaints	1,364
Hotels (Liquor)	40
Seizures	1
Samples	194
Notices served	211
Prosecutions	75
Fines and costs	£747 10s.

There has been little increase in the work of Pure Food Administration in 1962 because the Western Health District is a large one and it cannot be adequately inspected by one Senior Food Inspector.

TUBERCULOSIS CONTROL

Tuberculosis control continued to proceed smoothly since decentralisation in 1961. There were still minor administrative and procedure difficulties but these were being eliminated.

TABLE V—TUBERCULOSIS CONTROL WORK—1962

Category of Work carried out	Number
New cases discovered	30
Total number of patients	3,784
Total number of attendances	6,628
Number of visits	2,202
Mantoux tests	434
B.C.G.	61
On books number of arrested cases	7

MATERNAL AND BABY WELFARE

The work of the Division of Maternal and Baby Welfare in the Western Health District was decentralised in May, 1962, and an Assistant Nurse Inspector was appointed. Forty-five Baby Health Centres in the Western Health District were taken over.

The Medical Officer of Health accompanied the Assistant Nurse Inspector on the initial inspections of as many of the Baby Health Centres as possible; twenty-seven Clinics were inspected in the second half of the year.

The attendance figures for Baby Health Centres in the Western Health District from July to December, 1962 are given below:—

TABLE VI—ATTENDANCES AT BABY HEALTH CENTRES—JULY-DEC., 1962

Visits to Centre	Hospital visits by Sister	Home visits by Sister
37,154	504	848

PUBLIC RELATIONS

An innovation during 1962, was the circulation to all Radio Stations in the area of tape recorded short talks on Public Health by Officers of the Western Health District. These talks appeared weekly on each Radio Station.

At the end of the year, a start was made on a monthly series of television appearances on Channel 8, C B.N. Orange. The Medical Officer of Health spoke on Baby Health Centres and the School Medical Service. Television appearances are more complicated and time consuming than Radio talks.

Two Health Inspector's Conferences were held at Wellington and Dubbo. Subjects discussed were Water Pollution; Public Health Law; Control of Tuberculosis in Dairy Herds; and Agricultural Pesticides. The Conferences were well attended, many delegates travelling long distances to be present.

MISCELLANEOUS

Medical Examinations

Medical Examinations numbered 26.

Fluoridation of Public Water Supplies

During the year Orange City Council commenced the fluoridation of its water supplies. There was no unfavourable public reaction. The plant appears to be working well and the recommended safe dosage has been maintained with little variation.

Since the announcement of a pound for pound subsidy for the installation of fluoridation plants was made by the Minister for Health, there has been a quickening of interest in the matter of fluoridation by Local Authorities. Other bodies such as Parents and Citizens Club have also shown an interest and the Medical Officer of Health has addressed many such clubs and meetings on the subject throughout the year.

Inspection of Aborigine Stations and Reserves

During October, 1962, all official Aborigine Stations and Reserves were inspected by Officers of the Western Health District. Sixteen Reserves and Stations widely scattered throughout the District were inspected. Particular attention was paid to Environmental hygiene, Maternal and Baby Welfare and Infectious Disease Control including Tuberculosis Control. The inspections revealed wide variations in standards of hygiene and accommodation. Enquiry into Infant Mortality Rates amongst Aborigines and White Australians in each area was made. These showed that the Infant Mortality Rate for Aborigines was very high, at least three times as high, in most areas, as the Infant Mortality Rate amongst White Australians. The high Aboriginal Infant Mortality Rate is almost entirely accounted for by deaths from preventable causes *i.e.* infection, poor maternal care, poor infant feeding and poor ante-natal care.

Poliomyelitis Vaccine

Stocks of poliomyelitis vaccine are now kept at the Western Health District office at Bathurst for use by General Practitioners. This has proved most popular with the local practitioners.

North Coast Health District—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Medical Officer of Health: Dr. I. K. Hay, M.B., Ch.B., D.P.H., D.T.M. & H.

Deputy Medical Officer of Health: Dr. D. J. Law, M.B., B.S., D.P.H.

Two School Medical Officers; two School Nurses; two Tuberculosis Nurses; one Senior Health Inspector; one Health Inspector; One Senior Food Inspector; one Clerk; one Office Assistant.

DISTRICT

The North Coast Health District comprises the following local authority areas:—

Municipalities—

Ballina, Casino, City of Grafton, City of Lismore, Mullumbimby.

Shires—

Bellingen, Byron, Coffs Harbour, Copmanhurst, Gundurimba, Kyogle, Maclean, Nambucca, Nymboida, Terania, Tintenbar, Tomki, Tweed, Ulmarra, Woodburn.

VITAL STATISTICS, 1962

Population—The population of the district at 30th June, 1962, was estimated at 155,000.

Live Births—There were 3,394 live births in the district, equivalent to a rate of 21·90 per 1,000 of population. Of these 1,801 were males and 1,593 females.

Deaths—Deaths numbered 1,355, equivalent to a rate of 8·74 per 1,000 of population. Of these 803 were males and 552 females.

Infantile Mortality—Deaths under one year of age numbered 73, equivalent to a rate of 21·51 per 1,000 live births.

Of the total number of deaths of infants under one year of age 54 or 73·97 per cent. occurred within one week of birth, and 58 or 79·45 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 15·91 and 17·09 respectively.

Still Births—There were 34 still births in the district equal to a rate of 0·22 per 1,000 of the population and representing 0·99 per cent. of all births (live and still).

ENVIRONMENTAL HYGIENE

The number of inspections carried out in 1962 represents a 60 per cent. increase in the amount of work since 1960. Once again the greatest volume of work was in connection with the installation of septic tanks.

The appointment of an additional Health Inspector in November, 1961 made it possible to pay more attention to other matters including water sampling and a survey of camping reserves.

TABLE I—INSPECTION WORK CARRIED OUT IN 1962 WITH COMPARATIVE FIGURES FOR 1961

Inspection	1961	1962
Septic tanks (proposed and existing)	692	801
Noxious Trades	47	49
Sanitary Depots	47	44
Business Premises	61	9
Water Supply and Samples	35	144
Sewage Treatment Works	5	9
Camping Reserves	5	23
Aboriginal Reserves	4	9
Scavenging District	..	4
Complaints	9	20
Food Premises	..	3
Other Inspections	9	65
Total	851	1,183

Water Supplies

Of the thirteen reticulated water-supply systems in this district only two supply authorities submit regular samples for chemical or bacteriological examination, most Health Inspectors being reluctant to send samples lest an unsatisfactory report be obtained.

Regular bacteriological sampling of the Rocky Creek water supply system, which supplies five local authority areas, including the City of Lismore, was commenced during the last quarter of the year to obtain a clear pattern of the supply under varying climatic and seasonal conditions. The Rous County Council, the supply authority, has submitted regular samples for chemical analysis enabling a pattern to be obtained showing the stratification of the dam itself and the excessively high contents of iron and manganese. These chemicals are the cause of consumer complaints concerning taste and colour, particularly where an unlined main is used or a dead-end main involved.

Much work remains to be done on sampling and investigation of pollution of water-supply sources.

The reticulated water-supply to Murwillumbah, in the Tweed Shire, was extended to include the communities of Kingscliff, Fingal, Banora Point and West Tweed Heads. Work began on the extension of the Nymboida supply to include the Lower Clarence area, and pipe-laying was started between South Grafton and Ulmarra.

Fluoridation of Water Supplies

Following the endorsement by the Department of Public Health of fluoridation of public water supplies as a safe and effective public health measure, and the decision in July, by the Government to give a subsidy towards the cost of purchase and installation of fluoridation equipment, most Councils have given the matter consideration.

The authorities who have voted in favour include the Rous County Council (Water Supply Authority for Lismore, Byron Bay and Woodburn), Lismore City Council, Bellingen Shire, Nambucca Shire, and the City of Grafton. The only strong opposition encountered was in Grafton.

Sewage Treatment

Sites for sewage treatment works to serve Bellingen and Tweed Heads were selected during the year. Sewerage extensions recommended by this department in South Grafton were completed, and plans for reticulated sewerage to the Municipality of Mullumbimby were well in hand.

Swimming Pools

New swimming pools were provided at Woodenbong, Bonalbo and Maclean, and construction of the Macksville pool was begun late in the year.

Camping Reserves

A survey of seventeen Caravan Parks and Camping Reserves was carried out, with a view to formulating a code of practice and minimum standards for these establishments. Recommendations on all aspects of environmental hygiene, including water supply, toilet facilities and sewerage, garbage disposal, spacing of camps, and fire precautions, were made for submission to the appropriate authorities.

Complaints

Sullage disposal difficulties were still the main source of complaints, although alleged nuisance from smoke, soot, and dust occasioned by the use of sawdust as a fuel in various industrial processes resulted in several complaints being made to this office.

Health Inspectors' Conference

A combined two-day conference of local authority health inspectors and officers of the North Coast Health District was held in March at the Council Chambers in Lismore. Guest speakers were the Chief Food Inspector Mr. W. J. Madgwick and a departmental microbiologist, Mr. J. K. Brown. Subjects discussed included dairy supervision, centralised slaughtering, the establishment of a local vaccine depot, garbage disposal methods, infectious disease procedure, and care of the aged. Several recommendations were made on which action has been taken, and it is considered that the conference was most successful and served a purpose not met by other meetings.

Seventeen of the twenty local authorities in the district were represented and a resolution was passed that a similar conference should be held in 1963, with Grafton as the host city.

As a direct result of this conference proposals for amendments to the Dairy Supervision Act and the formulation of Regulations under the Act have been submitted to the appropriate authorities.

COMMUNICABLE DISEASES

TABLE II

Disease	1961		1962	
	Cases	Deaths	Cases	Deaths
Acute Anterior Poliomyelitis	..	..	9	..
Ancylostomiasis	12	..	8	..
Ascariasis	6	..	15	..
Brucellosis	1	..	..	..
Dengue Fever	..	..	3	..
Diphtheria	2	..	1	..
Infectious Hepatitis	105	..	63	2
Infantile Diarrhoea	8	..	11	1
Leptospirosis	6	..	17	..
Meningococcal Infection	1	..	2	2
Puerperal Fever	7	..	5	..
Rheumatic Fever	3	..	..	..
Rheumatic Chorea	..	..	..	..
Scarlet Fever	7	..	13	..
Tuberculosis	37	1	43	4
Typhus Fever	..	..	1	..
Virus Encephalitis	..	..	3	3
Staphylococcal Pneumonia	6	4	1	1
Staphylococcal Mastitis	..	..	..	..
Staphylococcal diseases in infants under 4 weeks of age	2	1	1	..
Total	203	6	196	13

Acute Anterior Poliomyelitis

Of the 9 cases of Poliomyelitis which occurred during 1962, 7 occurred during the first quarter of the year when the disease was prevalent in New South Wales.

Dengue Fever

Three cases of this rarely notified disease were notified from Coffs Harbour in July. There is little doubt that Dengue Fever is more prevalent than this figure indicates.

Infectious Hepatitis

The significant decrease in the number of notifications of Infectious Hepatitis is in keeping with the general picture for New South Wales.

Twenty-three cases were notified from Bellingen Shire, 16 of these occurring in Bellingen town. This local epidemic in a rural area occurred over a period of 4 months, erupting explosively in August, 1962, no previous case having been notified during the year. Investigation showed a typical epidemiological picture with centrifugal spread from a central focus, the Bellingen Primary School. The last case was notified in November.

Tuberculosis

The development of Tuberculosis services in this district leading to an increased interest in the disease and awareness of the importance of seeking early diagnosis and treatment is reflected in the significant increase in the number of notifications this year.

SCHOOL MEDICAL SERVICE

Following the decentralisation of the functions of the School Medical Service late in 1961, the period under review has been one of expansion and consolidation.

TABLE III—ROUTINE SCHOOL MEDICAL EXAMINATION—1962

Data	Central Area	Southern Area	Northern Area	Total (All Areas)
School Population	13,181	15,578	10,072	38,831
Schools Examined	131	109	117	357
Full Examinations	5,428	3,232	7,045	15,705
Review Examinations	1,736	3,139	247	5,122
Total Pupils Examined	7,164	6,371	7,192	20,727
Defects Notified	2,658	2,431	3,498	8,587
Defects as % of No. Examined	37·1	38·1	37·9	41·0

At the beginning of the year this service in the North Coast Health District provided a coverage to about 24,250 school children; by December, 1962, the service had been extended to cover the entire school population of the District, some 38,800 children.

Of this total 28,750 came under the supervision of two departmental School Medical Officers and the remaining 10,000 were catered for under the Country Councils' Scheme.

This gratifying position has been attained through several factors, including the permanent appointment of a second School Medical Officer, the co-operation of local authorities and general practitioners in the implementation of the Country Council schemes, and the interest and enthusiasm of the officers of the Education Department.

An overall defect rate of 41 per cent. was found. It may be of significance to note that this rate was 10 per cent. higher in the Northern Area under the Country Councils' scheme than in the other two areas. In this area over 96 per cent. of the children were being examined for the first time. Defects notified included children not immunised against Diphtheria, Tetanus and Poliomyelitis.

The Central area, based on Lismore has a school population of 13,181 and comprises eight local authority areas, namely, The City of Lismore, the Municipalities of Ballina and Casino, and the Shires of Gundurimba, Terania, Tintenbar, Tomki and Woodburn. Schools in these local authority areas, previously examined under the Country Councils' scheme were throughout 1962 covered by a departmental School Medical Officer and Nurse, and this resulted not only in a considerable reduction in the amount of administrative work involved, but also, it is felt, in a considerably improved service to the public. It was possible in the central area to carry out a detailed study of the defects discovered at examinations; and these findings may be taken as typical of all areas on the North Coast. Dental caries was the most common defect found, 35·7 per cent. of all children examined being found to be dentally unfit to the extent that notification of the parents was warranted. Defects of vision of notifiable standard were discovered in 9·1 per cent. of children examined, and of hearing in 5·8 per cent. The finding that 6·9 per cent. of all school children examined had received no Poliomyelitis immunisation implies that there are some 2,600 children of school age unprotected in this district.

The Southern area, based on Grafton has a school population of 15,578, and comprises eight local authority areas, namely The City of Grafton, and the Shires of Bellingen, Coffs Harbour, Copmanhurst, Maclean, Nambucca, Nymboida and Ulmarra. The service here has been operated since 1960 by a departmental School Medical Officer and Nurse, but in 1962 it became possible to include the schools in Nambucca Shire and the more remote parts of Bellingen Shire, which had not previously been covered.

The Northern Area with a school population of 10,072 embraces the local authority areas of the Municipality of Mullumbimby, and the Shires of Byron, Kyogle and Tweed. All the schools here are covered by the Country Councils' scheme, operated by local general practitioners and locally employed nurses. The scheme in Tweed Shire, started in October, 1961 and operated mainly by two local doctors was a most effective one, due to the enthusiasm of the doctors and nurse and the keen interest taken in the project by Council's Deputy Chief Health Inspector. This officer was instrumental in instigating treatment of defects, particularly dental and visual, found in underprivileged children. All schools in Tweed Shire were completed by October, 1962 and keen appreciation of the benefits of the service was shown by local residents, the press, Council and the education authorities.

Examinations in Mullumbimby and Byron Shire began in March and were completed by two doctors, working part-time, during July. In Kyogle Shire considerable difficulty was experienced in starting this scheme, but eventually towards the end of the second school-term examinations were started and by the end of the year 34 of the 41 schools in the Shire had been completed.

In November discussions were held in Lismore with the Director of State Health Services concerning the future development of the School Medical Service in the North Coast Health District. Preliminary plans were formulated for the establishment of a Child Health Centre in miniature, to operate in the first instances at three centres of population, Lismore, Casino, and Murwillumbah, and for the assessment of handicapped children. Tentative arrangements were also made to start pre-school clinics in co-operation with the Division of Maternal and Baby Welfare, at these three centres.

Sanitary conditions in schools were generally reasonably satisfactory and there is evidence that the repeated attentions of the School Medical Officer is resulting in improvements being effected.

A special survey was carried out to determine whether the scheme for the supply of milk to pupils attending, Primary Schools in the district was operating satisfactorily. This was done by means of a questionnaire sent to the teachers in charge of 365 schools, with a population of 25,395 children. Generally the scheme was found to be working well but recommendations were made concerning faults in delivery and storage arrangements and the Education Department has taken action to rectify these faults where practicable. A separate report on the survey was submitted in June, 1962.

Throughout the year the utmost co-operation was received from the Education Department, the teachers, Councils, general practitioners and all others concerned, resulting in the foundation of a sound basic scheme capable of elaboration to a comprehensive child health service.

TUBERCULOSIS CONTROL

Table IV—Attendances at Tuberculosis Clinics, Northern Circuit, 1962, with Comparative Figures for 1961

Attendances	Lismore	Casino	M'bah.	Kyogle	Ballina	Total
1961	1,448	474	811	257	142	3,132
1962	1,656	619	799	388	87	3,549
1962 as percentage of 1961 ..	144	129	99	151	57	113

Table V

Attendances	Grafton	Coff's Harbour	Maclean	Total
1961	1,147	472	320	1,939
1962	1,108	289	146	1,543
1962 as percentage of 1961	97	71	46	80

The reduction of the Ballina figures is due to the clinic having been suspended for much of the year, because the chest films taken at this hospital have been consistently unsatisfactory for some time. The patients were diverted to the Lismore Clinic.

The marked fall in the attendances at the sub-clinics in the Southern circuit was entirely due to the smaller number of contacts requiring investigation at these centres, which, in turn, resulted from a decline in the number of active cases discovered during the year.

The marked increase at Casino necessitated duplication of clinic days. On the initiative of Casino Memorial Hospital large film surveys of some 350 employees of the Department of Railways and of the Northern Co-operative Meat Company were completed. A third survey, of the staff of the Casino Co-operative Dairy Society, was well advanced by the end of the year.

The visits made to all clinics by the Director of Tuberculosis during October resulted in the solution of many minor problems and in greater uniformity of procedures in the various centres.

PURE FOOD ADMINISTRATION

The amount of work carried out during the year was affected by the transfer of the Senior Food Inspector to the South Coast Health District and the necessity for the Inspector taking over to visit Sydney in connection with previous prosecutions there.

Efforts were made to encourage local authority health inspectors to take an interest in Pure Food work.

TABLE VI—INSPECTIONS, NOTICES, SAMPLES INVESTIGATED AND PROSECUTIONS, 1962, WITH COMPARATIVE FIGURES FOR 1961

Work carried out	1961	1962
Premises inspected	579	539
Warning Notices issued	90	40
Samples Purchased	271	170
Samples below standard	61	29
Prosecutions completed	37	63
Food placed under seizure in Tons	N.A.	6

The 539 premises inspected included wholesale stores, food factories, and retail establishments such as hotels, cafes, pastrycooks and milk bars. Particular attention was paid to catering arrangements at local agricultural shows.

Warnings, issued in the form of Notices requesting compliance with regulations, were mainly in respect of unclean premises, food exposed on shop counters, inadequate washing facilities and structural repairs. In general the structural standard of many retail store premises may be classified as poor, and unfortunately the proprietors are somewhat ignorant of food laws. The policy of education in these matters was implemented and local authority health inspectors co-operated enthusiastically.

A total of approximately 6 tons of food found to be in a damaged, deteriorated or perished state was formally placed under seizure and subsequently destroyed by the owners upon request. Four tons of this was in the premises of a large wholesale distributing agent in Lismore, supplying retailers in the city and surrounding areas.

The prosecutions completed during the year involved fines and costs totalling £531. This represents a large increase over the previous year and is partly due to the prosecution of persistent offenders who have not responded to advice or warning.

Early in September a food-poisoning outbreak as a result of a tea-party in Lismore resulted in ten people becoming acutely ill, several requiring hospitalisation. *Salmonella typhimurium* was isolated from the stools of eight patients and from dessicated coconut used to make lamingtons eaten at the party. Further investigation revealed that the coconut had come from the distributors mentioned above. No pathogenic organisms were isolated from samples taken in the warehouse, and the picture was complicated by the fact that duck eggs had been used in the cooking of the lamingtons.

ABORIGINES' WELFARE

In this district there are three Aborigines' Stations with resident managers and 9 Reserves under some form of supervision. All these were inspected on more than one occasion by officers of this district during 1962. The total population on these stations and reserves is about 1,200 and in addition there are several unofficial "settlements", and many aborigines living in the general community.

Several significant developments took place during the period under review. At Cabbage Tree Island officers of this district carried out a Poliomyelitis immunisation campaign and almost all inhabitants, children and adults, received their first two injections.

Conditions at Box Ridge reserve, near Coraki were the subject of adverse comment in the Sydney and local press during 1961, and as a result a complete rehousing scheme for the reserve was completed by December, 1962.

The controversial reserve at Cubawee outside Lismore has seen little improvement, but land has been resumed at two places on the outskirts of the City with a view to resettlement on these sites, both of which are within reach of reticulated water, sewerage, electricity and educational facilities. Also, one family has been successfully integrated with the community in Lismore.

A fortnightly Maternal and Baby Welfare clinic was inaugurated at the Cubawee school in April, 1962.

At Maclean the rehousing of eight aboriginal families in new cottages proved successful, and steps were taken for the complete evacuation and rehousing of the inhabitants of Ulgundahi Island near Maclean, where the three remaining families have been living under very sub-standard conditions.

Health supervision of aborigines was placed on a regular basis with the establishment of a routine bi-annual inspection, covering all aspects of environmental hygiene, Maternal and Baby Welfare, child health, medical treatment facilities, protective immunisation, nutrition, and tuberculosis control. The first of these regular inspections was completed in November.

HEALTH EDUCATION AND PUBLICITY

Statements were released to the press on many occasions, commonly as comments upon local occurrences affecting the public health. A number of lengthy articles relating to the fluoridation of public water supplies was prominently featured. The series of weekly articles on public health matters, instigated in 1961 was continued this year with releases on the subjects of Pure Food Regulations, the tuberculosis campaign, and the care of the aged. These were utilised by four local newspapers.

Public addresses were given to interested groups on sixteen occasions on such topics as fluoridation, standards of camping reserves, the care of aged, and the emotional needs of children.

Some two dozen locally prepared talks, broadly based on materials supplied by the Publicity Branch, were utilised by a local radio station. This resulted in many requests for departmental booklets being received from the general public.

MISCELLANEOUS

The success of a district wide survey into the 1961 incidence of the venereal diseases was largely due to the excellent co-operation received from the majority of medical practitioners in the district.

Analysis of the returns demonstrated that only half of the cases of Syphilis and less than one fifth of the cases of Gonorrhoea had been notified, and that a considerable proportion of practising doctors were not familiar with the provisions of the Venereal Disease Act.

Poliomyelitis Vaccine Supply

The scheme to maintain a supply of Poliomyelitis Vaccine at the district health office for the use of medical practitioners was inaugurated in June. This has proved very popular with doctors throughout the district and at the end of the year 5,315 single doses had been distributed.

Lectures to Nurses

The entire course including examinations on Personal and Communal Hygiene for first year trainee nurses attending the Nurses Regional Training School in Lismore was prepared and given by officers of this Health District. Three such courses were held during the year. Lectures on the Social Aspects of Disease were also given to third year nurses by the Medical Officer of Health and the Deputy Medical Officer of Health.

Medical Examinations

During the year 68 medical examinations, including Public Service applicants, Government department employees and war pensioners were carried out.

Visitors

Visitors to the District during 1962 included:—

Mr. H. Heath, Member, Public Service Board.
Dr. E. S. A. Meyers, Director, State Health Services.
Dr. N. S. Solomons, Director, School Medical Service.
Dr. W. Hemphill, Deputy Director, School Medical Services.
Dr. K. Harris, Director, Division of Tuberculosis.
Dr. A. Douglas, Metropolitan Medical Officer of Health.
Mr. W. J. Madgwick, Chief Food Inspector, Department of Public Health.
Mr. J. K. Brown, Microbiologist, Department of Public Health.

North Western Health District—Report For The Half-Year Ended 31st December 1962

STAFF AND ACCOMMODATION

Medical Officer of Health: Dr. J. Henson, B.A., M.B., Ch.B., D.P.H., D.T.M. & H.

Deputy Medical Officer of Health: Dr. J. R. Whitfeld, M.B., B.S., D.P.H.

One Senior Health Inspector; one Health Inspector; one Senior Food Inspector; one Clerk; one Office Assistant. (The appointment of an Assistant Nurse Inspector is pending).

The Offices in the V. Guy Kable Memorial Arts Building, Marius Street, Tamworth, were occupied on 16th July, 1962; the North Western Health District was officially opened by the Minister for Health on 27th July, 1962. This report is compiled from that date only.

THE DISTRICT

There are nine municipalities and twenty-one shires in the North Western Health District which extends a distance of about 250 miles from Murrurundi in the south to the Queensland border. A good deal of time is spent in travelling from place to place.

Some of the local authority areas are relatively under-developed and lack health inspection services. The present position is as follows:—

Municipalities with one health inspector (population as shown as at 30th June, 1961):—

Armidale (12,884), Glen Innes (5,767), Gunnedah (6,544), Inverell (8,202), Moree (6,793), Narrabri (5,420), Tamworth (19,064), Tenterfield (3,105).

Shires with one health inspector:—

Barraba (2,941), Cockburn (4,438), Guyra (5,371), Manilla (3,354), Namoi (7,734), Severn (3,726), Tenterfield (3,986).

Municipalities and Shire Councils sharing the services of health inspectors:—

Peel (5,621), Tamarang (2,759), Murrurundi (2,850) Shires and Quirindi Municipality (2,783) share one health inspector; Uralla (4,525) and Walcha (3,943) Shires share one health inspector.

Shires without health inspectors:—

Ashford (3,389), Bingara (2,845), Boolooroo (3,802), Boomi (2,923), Dumaresq (2,875) Liverpool Plains (4,980), Macintyre (4,117), Nundle (1,337), Yallaroi (4,575).

VITAL STATISTICS, 1962

Population—The population of the District at 30th June, 1962, was estimated at 153,290.

Live Births—There were 3,953 live births in the District, equivalent to a rate of 25·79 per 1,000 population. Of these 2,024 were males and 1,929 females.

Deaths—Deaths numbered 1,303, equivalent to a rate of 8·50 per 1,000 population. Of these 800 were males and 503 females.

Infantile Mortality—Deaths under one year of age numbered 100, equivalent to a rate of 25·30 per 1,000 live births.

Of the total number of deaths of infants under one year of age 62 or 62·00 per cent. occurred within one week of birth, and 73 or 73·00 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 15·68 and 18·4 respectively.

Still Births—There were 52 still births in the District equal to a rate of 0·34 per 1,000 of the population and representing 1·30 per cent. of all births (live and still).

TABLE I—COMMUNICABLE DISEASE—1962*

Disease	Cases	Deaths
Ascariasis	1	..
Brucellosis	2	..
Infantile Diarrhoea	7	2
Virus Encephalitis	3	1
Infectious Hepatitis	34	..
Scarlet Fever	3	..
Puerperal Fever	3	..
Meningococcal Infection	3	1
Staphylococcal Pneumonia	3	1
Poliomyelitis	..	..
Tuberculosis	10	6
Total	69	11

* The North Western Health District functioned from 27th July, 1962

It is thought that many communicable diseases are not notified as legally required.

The only infectious disease notified of importance was infectious hepatitis. It was particularly prevalent in some of the smaller towns and villages with poor personal hygiene and poor sanitation.

ENVIRONMENTAL HYGIENE

In spite of the limitations imposed by staff and office organisation, a good deal of health inspection work was accomplished.

The salient features noted were as follows:—

1. Water supplies are often derived from doubtful sources and not always adequately protected or routinely tested.
2. Milk if more often than not produced under most unhygienic conditions, as proved by sampling.
3. Conditions at many of the smaller slaughtering premises are most unsatisfactory, meat inspection often being carried out by unqualified persons, if at all.
4. The collection and disposal of human, animal and domestic refuse is not always properly conducted, mainly due to lack of supervision; and conditions at some of the smaller nightsoil and garbage depots leave much to be desired.
5. The quality of effluent wastes from sewage treatment works is often below standard; and the disposal of such effluents into local rivers, streams and creeks is fraught with danger.
6. Flies are numerous and ubiquitous, but the region is predominantly agricultural and pastoral.
7. Conditions at some of the hotels are often very primitive and insanitary.
8. Some of the houses occupied by elderly people, particularly old aged pensioners, are unsuitable for human habitation.

Many of these conditions and problems were discussed at the first conference of Health Inspectors held in Tamworth on 7th December, 1962. It was decided that Health Inspectors in the District could play a greater role in the supervision and control of septic tank installations, and in securing the purity and wholesomeness of foodstuffs.

Sanitary Inspections

Abattoirs, slaughtering premises, saleyards and poultry farms	69
Dwellings (including hotel premises)	84
Septic Tanks	80
Dairies	8
Public Institutions	22
Nuisances	7
Sanitary Depots	15
Water Supplies	21
Public Amenities	10
Cemeteries	3
Noxious Trades	83
River Pollution	3
Hotels	4
Sewage Treatment Works	7

Water samples were taken as follows:—

Two from the well, near a septic tank, attached to the Yetman Bush Nurse Hospital; three from tanks and a river for a water supply for a proposed hospital at Inverell; and six samples from the Willow Tree Public Water Supply pumped from a suspect well.

Sanitary surveys of towns, villages and settlements included Willow Tree, Murrurundi Shire; Calala, Peel Shire; Spring Ridge, Tamarang Shire; Tambar Springs, Liverpool Plains Shire; Ashford, Ashford Shire; Coolatai, Gravesend, Warialda Railway, Yallaroi Shire; Kentucky, Uralla Shire.

This was done to assess the sanitary problems concerned and to draw the attention of Local Authorities to defects and inadequacies.

An intensive and comprehensive survey of ten Aboriginal Stations and Reserves, having a population of 1,300, was carried out in October, 1962. It was found that there was need for improvement in environmental hygiene, public health services and housing facilities. As the health education of many of the residents is somewhat poor, it was felt that the proper approach to the overall problem should be along medico-social lines.

The methods adopted by a local fumigator came under scrutiny. It was considered that they may be hazardous and the matter is receiving close attention.

PURE FOOD ADMINISTRATION

The Senior Food Inspector only assumed duties on 11th September, 1962.

PURE FOOD: INSPECTIONS, NOTICES, SAMPLES AND PROSECUTIONS

Food premises inspected	300
notices issued	65
Samples taken—meat and smallgoods	51
milk and cream	61
spirits	1
Seizures—foodstuffs	1,200 lb.
Prosecutions—adulterated milk (both successful)	2

Fines: £15. Costs: £2.

TUBERCULOSIS

A clinic is conducted at the Tuberculosis Hospital attached to the Base Hospital, Tamworth, and subclinics are conducted on a monthly basis at Quirindi, Gunnedah, Narrabri, Moree and Armidale. The attendances were as follows:—

Number of new patients seen	224
Number of new cases discovered	4
Total number of patients seen	897
Total number of attendances by patients	1,177
Number of home visits	85
B.C.G. vaccinations given to contacts	182

The Tuberculosis Hospital has accommodation for twenty-one (21) patients but only twenty persons were admitted. Twelve of these had tuberculosis; the other patients were admitted for observation.

Mobile X-Ray Units of the Anti-tuberculosis Association of New South Wales commenced a survey of the District during 1962. During a three weeks visit to Tamworth 13,788 persons were investigated. Only one case of active tuberculosis was detected. There were eighty-one (81) cases of inactive tuberculosis and one hundred and sixty-nine (169) persons were found to suffer from lung conditions other than tuberculosis.

Tuberculosis is therefore not a major public health problem in this District.

SCHOOL MEDICAL SERVICES

There are close on 25,000 schoolchildren in the District. Since 1959, eight Shire and three Council-sponsored schemes for the medical examination of schoolchildren were started, but during the latter six months of 1962, it had decreased to one. It is difficult to obtain the co-operation of private doctors and the only alternative is to appoint full-time School Medical Officers.

MATERNAL AND BABY WELFARE

The services await decentralization pending the appointment of an Assistant Nurse Inspector; but the Office has been helpful in the selection of sites and inspection of Baby Health Centres.

DENTAL SERVICES

Decentralization is pending. The dental health of schoolchildren is generally known to be poor. Private dentists are few and far between, and the position would be much worse were it not for the periodical visits to schools by the Officers of the Mobile Dental Surgeries of the Division of Dental Services.

FLUORIDATION OF WATER SUPPLIES

The following Local Authorities have agreed to fluoridation of their public water supplies in principle: Armidale, Bingara, Guyra, Manilla, Mungindi, Tamworth and Tenterfield. Advisory inspections have been carried out in six of these areas. A public meeting on fluoridation was addressed in Tenterfield in association with Professor N. Martin of Sydney.

VACCINATION MEASURES

Although Local Authorities obtain their bulk supplies of anti-poliomyelitis vaccine direct from Sydney, it was considered necessary to keep a supply of vaccine at this Office especially for general practitioners and also for Local Authorities who might wish to augment their own supplies. This scheme has been very successful and 2,696 doses were issued to general practitioners and 6,014 doses to Local Authorities.

Vaccination with triple antigen is not being as dillgently pursued by Local Authorities as desired and this important matter will receive attention.

MEDICAL EXAMINATIONS

As facilities were limited, only three candidates for the Public Service were examined.

HEALTH EDUCATION

The purpose and functions of the Public Health Department are now better known and understood by Local Authorities and the public. This was effected through the radio, press and by public addresses. Special visits were made to various centres in the District to meet Civic Authorities and discuss matters of local interest. Good relationships were established with other Government Departments and voluntary bodies. Visitors from Head Office included the Director of State Health Services and the Director of Tuberculosis.

CONCLUSION

The Public Health Department has now been firmly established and is functioning well. There are ever-increasing demands on its services by Local Authorities. A clearer picture of the public health problems and needs in this vast area is slowly emerging and it can be said that the establishment of the North Western Health District has been fully justified.

Broken Hill and District—Annual Report, 1962

STAFF

Dr. J. T. Cullen, M.B., B.S.

One Radiographer; one Clerical Staff.

LOCAL AUTHORITIES

The Broken Hill Health District is confined to the County of Yancowinna. The county is within the shire of central Darling, which lies mainly to the west of the Darling River. The county covers an area of 16,000 square miles, with the Municipality of Broken Hill at the centre of the county.

The South Australian border forms the western boundary. The Broken Hill Health District is a centre of metal mining and pastoral industries.

VITAL STATISTICS, 1962

Population—The population of the district at 30th June, 1962, was estimated at 30,810.

Live Births—There were 701 live births to mothers resident in the district, equivalent to a rate of 22·75 per 1,000 of population. Of these, 364 were males and 337 females.

Deaths—Deaths of residents numbered 247 equivalent to a rate of 8·02 per 1,000 of population. Of these, 133 were males and 114 females.

Infantile Mortality—Deaths under one year of age numbered 16, equivalent to a rate of 22·8 per 1,000 live births.

Of the total number of deaths of infants under one year of age, 12 or 75·00 per cent., occurred within one week of birth and 14 or 87·50 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 17·12 and 19·97 respectively.

Still Births—There were 8 still births to mothers resident in the district, equal to a rate of 0·26 per 1,000 of population and representing 1·13 per cent. of all births (live and still).

COMMUNICABLE DISEASES

Table I—Incidence of Notifiable Diseases, Broken Hill 1961-1962

	1961		1962	
	Cases	Deaths	Cases	Deaths
Scarlet Fever	..	..	..	..
Infectious Hepatitis	154	1	10	..
Infantile Diarrhoea	11	2	..	..
Staphylococcal disease in infants under four weeks	2	..	..	..
Staphylococcal Mastitis	1	..	..	..
Tuberculosis	..	..	12	..
Poliomyelitis	..	..	..	..
Puerperal Fever	..	..	1	1
Total	168	3	23	1

There has been a marked reduction in the incidence of Infectious Hepatitis.

Table II—Examinations Carried Out—1962

Examinations and interviews as Medical Officer of Health	80
Post Mortem examinations at the request of the coroner	33
Attendances at Court and giving evidence in police cases	43
Examinations of arrested persons or prisoners	20
Visits to gaol for examination of prisoners	12
Examinations and reports on Police Constables *re* fitness for duty	15
Governmental examinations (Public Service Board, Railway Department, Education Department)	124

The number of new patients examined at the Anti-Tuberculosis Clinic was 30, while attendances totalled 52.

CLINICAL PATHOLOGY AND MEDICAL RESEARCH

The Institute of Clinical Pathology and Medical Research—Annual Report, 1962

Director: Dr. H. Kramer

This, the fourth Annual Report of the Institute of Clinical Pathology and Medical Research, covers a year which has witnessed a great expansion in the activities of all departments. Extensions to the building were completed in February; the new department of Exfoliative Cytology was established; new laboratories for Virology and Histopathology became available to accommodate the vastly increased amount of work handled by these departments. The laboratories which they previously occupied were adapted for the expansion of the departments of Biochemistry, Haematology and Bacteriology, which were also pressed for accommodation. The staff was increased by some 40 per cent. and the opportunity was taken to overhaul and reorganize the clerical procedures in order to relieve the scientific and technical staff of much of the burden of clerical work which they had previously carried. It thus became possible to make more economical use of skilled manpower and at the same time to expedite the preparation and despatch of reports.

As pointed out in previous Annual Reports, the functions of the Institute fall under the following headings:—

(*a*) The provision of a comprehensive Clinical Pathology service.

(*b*) The training of pathologists and medical technologists.

(*c*) Research.

These activities are discussed in detail below.

CLINICAL PATHOLOGY

Perhaps the most remarkable feature of the year's activities has been the sustained increase in the number of investigations carried out. More and more hospitals and private medical practitioners, both in the metropolitan area and in the country, are utilizing the diagnostic service offered by the various specialized departments. This underlines the fact that the Institute is filling a long-felt need for readily available diagnostic facilities. It is also an encouraging indication of a progressive improvement in the quality of medical care, since more and more patients derive the benefit of precision in diagnosis and the scientific control of treatment which only adequate laboratory investigation can provide. Fortunately, the new laboratory accommodation became available early in the year; had it not done so it would have proved impossible to handle the increased amount of work in Histopathology, Virology and Haemotology. The facts and figures which reveal the growing demand for investigations are set out in detail and illustrated graphically in Appendix A.

Pathological Anatomy and Histology

The past year has seen a further substantial growth in the number of specimens submitted for histopathological examination so that in three years the volume of work has more than doubled. In 1960, the first full year of operation, 5,025 specimens were received; in 1961 the number had grown to 6,553; while in the year under review the total reached 10,425. At the same time the number of sections prepared and examinations completed has risen from 10,572 in 1960, and 14,993 in 1961, to 22,683 in 1962. This has naturally imposed a great strain on the staff, particularly as throughout the year positions of Senior Histopathologist and Senior Histological Technician remained unfilled. Some satisfaction might be derived from the fact that nearly all this work has been handled by staff who have received all their training in Histopathology at the Institute in the past two or three years.

There has been a slight increase in the number of autopsies carried out during the year; from 209 in 1961 to 222 in 1962. While this number might be regarded as adequate to sustain the training programme, it is desirable that it be increased still further. This should present no great difficulty as the present rate represents only about 30 per cent. of the annual deaths at the Lidcombe State Hospital. During the year the accumulation of museum specimens and histological sections for teaching purposes has proceeded satisfactorily.

The number of specimens submitted for assay of chorionic gonadotrophin (pregnancy diagnosis) amounted to 254 in 1962 compared with 58 in 1961. This investigation is carried out in the Histopathology Department; the Galli-Mainini technique, using male toads, is employed.

Bacteriology

In 1962, 13,300 specimens were received for bacteriological examination and on these 38,028 tests were carried out. This compares with 11,180 specimens and 35,423 examinations in 1961. The heaviest burden of the work still relates to the isolation and identification of *Mycobacterium tuberculosis* and to the performance of drug sensitivity tests on these organisms. The bare statistics do not give a true reflection of the very great increase in the amount of work entailed in performing the drug sensitivity tests. Whereas previously tests for sensitivity to streptomycin, isoniazid and para-amino salicylic acid only were employed, this was extended in February, 1962, to include the sensitivity of the organisms to ethionamide and cycloserine in all cases with a history of previous chemotherapy. At the same time, the resistance ratio method was introduced for all drug sensitivity tests. While this method has the advantage of greatly increased accuracy and sensitivity, it requires the use of a much larger series of drug concentrations than were employed previously. Six concentrations of isoniazid, seven of streptomycin, seven of para-amino salicylic acid, five of ethionamide and four of cycloserine are used; and in newly diagnosed cases the drug sensitivity tests are carried out in duplicate using two different cultures of *Mycobacterium tuberculosis*. A further refinement in the work on tuberculosis was the introduction in May, 1962, of guinea pig inoculation for all specimens of gastric aspirate. Previously these specimens were submitted only to cultural examination. The intention is to analyse the results to determine whether the additional work involved in animal inoculation is justified.

Apart from the work on tuberculosis bacteriology, there has been no slackening in the demand for other investigations and most of the routine work increased steadily in amount. The demand for Rose-Waaler tests for rheumatoid arthritis has about doubled in the past year and it has become necessary to perform batches of tests twice weekly. A refinement introduced during the year is the inclusion of a positive control serum with each batch.

The demand for bacteriophage typing of *Staphylococcus aureus* continues to grow, and over 35 hospitals submitted specimens. Many cultures were submitted by the Royal Newcastle Hospital which is conducting a survey of staphylococcal infections, under varying nursing conditions, in mothers and babies.

Haematology

During the year 4,665 specimens were received, compared with 4,299 in 1961. This comparatively small increase is perhaps misleading as it fails to reveal the growth in the number of investigations undertaken. Whereas in 1961 11,597 tests were performed, in 1962 the total amounted to 15,291. This is due in part to the introduction of microhaematocrit determinations in all specimens of blood; all patients now investigated in the department have full haematological screening of haemoglobin, haematocrit and blood-film examination.

Blood banking procedures for Lidcombe State Hospital continue to occupy a great part of the time of trained staff. The most burdensome part of this activity is the accompanying documentation which is very tedious yet at the same time essential for safe transfusion practice. Requests for assay of Vitamin B_{12} come in increasing numbers from all over the State—they have more than doubled this year—and it is apparent that this service is of great value to practitioners. The provision of a special air-conditioned laboratory for microbiological assays has ensured standard conditions for the growth of *Euglena gracilis*, the test organism, and this has reduced many of the difficulties inherent in the procedure.

In the Annual Report for 1961 mention was made of the developmental work being undertaken on folic acid assay. This was successfully completed and the procedure is now regularly carried out on the sera of selected cases using *Lactobacillus casei* as the test organism. A survey of the diagnostic value of this estimation is in progress. Developmental work on the assay of formimino glutamic acid is now under way and it is hoped that this, together with folic acid estimations, will find particular application in the study of geriatric anaemia.

The demand for radioactive isotope investigation of blood disorders has about doubled during the year.

While the great bulk of the routine haematological work still comes from the Lidcombe State Hospital, many hospitals and private medical practitioners throughout the State are referring specimens for special investigations. At the same time a growing number of patients are referred directly for consultation and for special diagnostic procedures not available elsewhere in New South Wales.

Biochemistry

Whereas in 1961, 7,112 specimens were received for biochemical investigation, the corresponding figure for 1962 was 8,590. At the same time the number of examinations carried out rose from 13,760 to 19,407. Increases in the demand for serum electrolytes and proteins are worthy of note, as is the more than three-fold increase in catechol amine estimations. At the same time urinary keto- and ketogenic steroid estimations more than doubled. Following the publication of methods for the determination of serum iron and latent iron-binding capacity which were developed in these laboratories the demand for this analysis increased by well over 100 per cent. As mentioned in the Annual Report for 1961 there was increasing pressure to make available within the State a dependable service for the determination of serum protein-bound iodine; several hospitals were in fact sending specimens to the United States of America for this examination. Accordingly, exploratory work was undertaken and a reasonably satisfactory method has been evolved. While the sensitivity of the method is adequate, it is a time-consuming investigation and work is continuing in an effort to find ways of reducing the time involved without sacrificing accuracy. Although this test was only offered in the latter part of the year and its availability was not generally known, 51 specimens were submitted for this analysis.

Throughout the year work was constantly being carried out in an endeavour to improve and shorten procedures, particularly for the more difficult types of estimation such as those relating to hormone metabolites. Alkaline copper reduction, so long in use for the determination of blood glucose, was abandoned in favour of the more specific, accurate and reliable enzymatic method using glucose oxidase. During the year a method for the rapid determination of calcium and magnesium in serum and urine was developed; this has been submitted for publication.

As part of a joint effort by members of the Australian Association of Clinical Biochemists this department is initiating a continuous quality control programme. A standardized, frozen-dried serum, accurately prepared by special means, is used as a reference for day to day checks on the accuracy of routine biochemical determinations. The same batch of serum will be used by all participating laboratories so that results can be compared. Increased confidence in the validity and accuracy of results will follow since any departure from optimum functioning of any process should speedily be detected and corrected. As accuracy and reliability of laboratory results is of supreme importance for good medical practice, this programme should be of the greatest value.

Virology

In February the Virology Department moved into the new laboratories and with the enlarged accommodation it became possible to reinforce the staff. During the year 2,468 specimens were received, compared with 1,792 in 1961.

The diagnostic material handled by the department stems largely from the following sources:—

(1) Specimens from all suspected cases of poliomyelitis are submitted to the laboratories for virus isolation.

(2) The Prince Henry Hospital submits many specimens from patients with a variety of infectious diseases of suspected viral origin.

(3) A circular has been sent to all metropolitan hospitals in New South Wales notifying them of the facilities for virus diagnosis offered by this Institute. Quite a large amount of viral serology comes from these hospitals at present, but comparatively little material has been received for virus isolation in the past. Arrangements are currently being made to encourage the hospital pathologists to interest themselves and assist in the collection and preparation of such specimens.

(4) A few general practitioners submit specimens from patients suspected of suffering from virus diseases.

The increase in the amount of work handled during the year is to some extent attributable to the polio epidemic which did not abate until the end of April. In all, 259 viruses were isolated. With the termination of the polio epidemic infections with Coxsackie virus type B4 became prevalent and isolations were obtained from 37 cases.

Approximately 800 tubes of a variety of tissue cultures are now prepared and used each week and their establishment and maintenance entails a great deal of work. A programme for the preparation of diagnostic anti-sera has begun and to date specific hyperimmune antisera to 32 entero-viruses have been prepared by inoculation of rabbits. These sera are used for the identification of virus isolates.

Apart from its diagnostic function, the Virology department is actively engaged in a variety of epidemiological observations. These are discussed later under Research.

Exfoliative Cytology

The Department of Exfoliative Cytology was officially opened by the Minister for Health, the Hon. W. F. Sheahan, Q.C., LL.B., M.L.A., before a large and distinguished gathering on 29th June, 1962.

Exfoliative Cytology is the microscopic study of cells which are normally shed off from all body surfaces. About 20 years ago, Papanicolaou showed that cancer of the cervix of the uterus, one of the commonest cancers of women, is singularly susceptible to early detection by this technique, at a stage before invasion has occurred and when cure can be virtually guaranteed. The method was slow to gain acceptance at first, but in the past decade several large-scale surveys abroad have established its value and demonstrated that by its application cancer of the cervix can be attacked as a Public Health problem. By establishing facilities at this Institute for the examination of large numbers of these specimens, and by making the test freely available through their doctors or hospitals to all women in this State, the New South Wales Department of Public Health can claim with justifiable pride to have launched the first large-scale attack on cancer in Australia.

The Annual Report for 1961 records the preliminary planning and organization of this new service. The arrival from the United Kingdom of Dr. T. J. Ryan, the Senior Cytologist, was followed immediately by the recruitment and training of a staff of scanners. At the same time the design of specimen collection kits, instruction booklets, etc. was completed and orders for their production were placed. When these finally became available in May, staff training had progressed to the stage where the service could be inaugurated. Following the official opening and the accompanying publicity, the rate of reception of specimens rose rapidly. The response from hospitals and private medical practitioners left no doubt of the great demand for a service of this sort. Two thousand specimen collection kits were soon distributed to about 1,000 doctors who had requested them, while a further 250 large kits were supplied to hospitals throughout the State. Apart from the Metropolitan Area, specimens are received from doctors in 160 country centres.

Unfortunately, trouble was encountered in the first few months because a relatively high proportion of the glass slides on which the specimens are submitted were being broken in transit to the Institute. The postal authorities were consulted and their aid was enlisted in an attempt to remedy this. They most readily co-operated and after an exhaustive investigation of the entire process of mail handling the cause of the breakages was located in the automatic mail sorting machines. The problem was then easily overcome by a change in the design of the envelopes in which the specimens are submitted.

By the end of the year, 15,504 smears had been examined and 85 " surprise positives " were found in women who had no signs or symptoms of cancer. Histological confirmation of early cancer of the cervix has already been obtained in 61, and these have been treated accordingly. The prognosis in these patients is excellent, but without the early diagnosis made possible by Exfoliative Cytology their cancers would not have been found by clinical means until many years later. By then, even in the most skilled hands and with the best available forms of therapy, their outlook would be very poor. The remaining 24 patients who exhibited positive smears are still under investigation. In three cases a false positive diagnosis was made, but in two of them the histological specimens were inadequate and so further investigation is warranted. In four cases false negative reports are known to have been issued; in two of these the smears were of poor quality. It is these findings which underline the need for a close clinical association with facilities for instruction of practitioners in specimen collection and biopsy technique. It is hoped that such clinical affiliation will be developed in the coming year as without it no Exfoliative Cytology department can realize its full potential.

Apart from cervical smears, a small number of specimens from other parts of the body were received. These amounted in all to 176 and came from lung, pleura, peritoneum and breast. The only real application of Exfoliative Cytology to these situations is to exclude or confirm the presence of suspected malignancy; quite the opposite is the case with cervical cytology, where the purpose is to detect unsuspected cancer.

TEACHING

(a) Training of Medical Graduates as Pathologists

Since the University of Sydney granted full recognition of the Institute as a post-graduate training centre for medical graduates wishing to become specialist pathologists, the Public Service Board has agreed to establish training posts of Registrar in Clinical Pathology. As a result seven Registrars are now undergoing training in the Institute's laboratories. While the training offered is, for the most part, on the apprenticeship system, the departments of Bacteriology and Haemotology are establishing, in addition, rather more formal training programmes. In Histopathology considerable progress has been made during the year towards the compilation of a reference collection of sections and in building up a museum of gross pathological specimens for teaching purposes. The post-graduate teaching activities are reinforced by attendance at seminars, scientific meetings, lectures and informal tutorials.

The tenure of these registrarships is for a period of three years, during which time trainees spend a full year doing Morbid Anatomy and Histology, and then six months in each of the other departments, namely Haematology, Bacteriology and Biochemistry, leaving a further six months for general revision. During the six months each Registrar spends in Haematology he is either in residence or on call for all emergency work at the Lidcombe State Hospital, and in this way is able to gain experience in emergency pathology.

Plans are at present being made to offer training in Exfoliative Cytology and accordingly a large number of normal and abnormal smears have been collected and photographed for teaching purposes. The department should soon be in a position to offer training not only to pathologists and gynaecologists but also to train cytotechnicians and scanners for outside bodies.

(b) Training of Laboratory Assistants and Microbiologists

The staff establishment provides for eight laboratory assistants and 13 laboratory assistants-in-training, the purpose of these appointments being to meet future needs for qualified technical staff in the Health Department's laboratories by providing in-service training in all branches of medical laboratory technology. Trainees fall into two categories:—

(i) Those whose aim it is to be microbiologists—these attend the part-time course at the University of New South Wales leading to the degree of Bachelor of Science in Applied Biology;

(ii) Those who wish to qualify as laboratory assistants—these attend the laboratory certificate course at the Sydney Technical College and on completion of this course may proceed to a Diploma in Medical Technology.

In addition, to meet the needs of staff for Exfoliative Cytology, 12 positions of trainee scanner were created. An overwhelming number of applications for these positions (in excess of 500) was received, and the selected applicants were provided with in-service training. They work only in the Exfoliative Cytology department and do not at present obtain any formal qualification.

(c) Staff Meetings

An important feature of the educational side of the work of the Institute is the programme of weekly staff seminars, which are jointly sponsored by the Institute and the Lidcombe State Hospital. These meetings are open to the medical profession as a whole and are advertised in the Medical Journal of Australia, in the British Medical Association's Monthly Bulletin and by the Post-Graduate Committee in Medicine of the University of Sydney. Approximately 36 such meetings are held each year, spread over three terms, in each of which 12 seminars take place; there is a recess of approximately one month between terms. All members of the scientific staff are encouraged to attend and the senior staff, Registrars and Microbiologists are expected to take turns at presenting papers; outside speakers are also invited to lecture. Apart from the fact that these seminars provide a common ground on which the staffs of the Institute and the Lidcombe State Hospital can meet, much valuable clinical, pathological and scientific information is disseminated. One of the most important aspects however, is the opportunity these seminars afford for the members of the staff to gain practical experience in lecturing before a critical audience. The programme of weekly seminars held during 1962 is attached (see appendix B).

The results of the training programmes at the various levels discussed above give cause for considerable satisfaction. The Institute, when first established had, apart from the specialist heads of departments, a nucleus of but six science graduates experienced in medical technology and two histological technicians; the scientific and technical staff (which includes trainees) now exceeds 50, most of whom have obtained all their training here. When the Institute of Clinical Pathology and Medical Research was established, misgivings were frequently expressed that its staffing would drain many trained personnel away from hospital laboratories; it is significant that no hospital in N.S.W. has lost a single member of its trained staff to this Institute.

RESEARCH

Programmes of original work are being developed in the various departments. Much of this is of a developmental nature, aimed at overcoming technical difficulties inherent in some of the more sophisticated types of investigation; some involves epidemiological or other types of survey, while a small residue is rather more fundamental in nature.

Biochemistry

As mentioned in the Annual Report for 1961, plans were being made for the introduction of gas chromatography as an investigational and analytical technique. These plans attained fruition in the latter part of the year when the necessary equipment was delivered. Much preliminary effort was devoted to setting up the instruments and in establishing working conditions for the particular problems of interest, notably the application of this technique to the determination of steroid hormones and their metabolic intermediates in various tissues and body fluids. Chromatographic work in this difficult field has hitherto been confined largely to liquid-liquid phases on columns or paper, and the application of gas chromatography as a means of investigating clinical problems involving steroid assays is still new. The intention, once the necessary calibrations and working conditions are established, is to apply the technique to investigations of diseases in which dysfunctions of the adrenals, ovaries, testes or pituitary occur. Work is already well advanced on the estimation of progesterone output of women under varying conditions. This hormone, which is mainly ovarian in origin, is excreted as pregnanediol. The extension of this type of study to other steroids will involve a considerable amount of work on the best means of isolating the steroids and in preparation of extracts suitable for presentation to the gas chromatograph. Both qualitative and the more difficult quantitative aspects of these problems are being actively studied at present. So far as is known, this is the only laboratory in New South Wales engaged in such work.

Other projects carried out in the Biochemistry department during the year include the development of methods for the determination of copper in serum and urine; the titrimetric determination on a micro-scale of calcium and magnesium in biological fluids; improved methods for the determination of cholesterol, ketosteroids and serum iron. These projects have all been completed and the results submitted for publication.

Haematology

As mentioned elsewhere, studies on the vitamin B_{12} levels in serum in various conditions have continued and this work has now been extended to include the determination of serum folic acid as well. At present, work is being carried out with the aim of developing a satisfactory method of assay of formimino glutamic acid in urine. Should this be successful combined studies of this metabolite and folic acid levels in serum are expected to have direct relevance to the problem of certain types of anaemia commonly encountered in old people.

Bacteriology

A survey aimed at assessing the efficacy of ethionamide in the treatment of tuberculosis patients infected with organisms resistant to the conventional drugs, which was undertaken at the instigation of the Division of Tuberculosis and with the promised co-operation of various hospitals, was finally abandoned during the year. A great deal of effort and time was wasted in this fruitless survey which collapsed largely because of lack of co-operation in the strict observance of principles for the selection of patients. The lesson has, however, been learned and we shall not again be easily persuaded into ill-conceived projects.

As mentioned elsewhere, the Bacteriology department is co-operating with the Royal Newcastle Hospital in a survey of staphylococcal infections in mothers and new-born infants under varying nursing conditions. The bacteriophage typing of the organisms is carried out at this Institute.

The Bacteriology department has also collaborated actively, together with the Virology department, in a survey of Q-Fever and Brucella infections in abattoir workers in New South Wales. An outbreak of Q-Fever was studied in detail and a large-scale epidemiological survey of abattoir workers and cattle is now planned.

Histopathology

In the Annual Report for 1961 mention was made of the start of an investigation into the chemical changes which occur in elastic tissue with ageing. The method of end-group analysis by chromatography of fluorodinitrobenzene derivatives is used on hydrolysates of purified extracts. This work has continued during the year and a useful amount of information has now been accumulated on the constitution of aortic elastic tissue in the aged. However, in order to evaluate the significance of the results it is necessary to compile comparable information about similar tissues from younger age groups and this has proved difficult to procure. As the Lidcombe State Hospital is unable to provide post-mortem material from young persons other sources have been explored but the returns have been very discouraging. There has recently been some improvement in the supply from the City mortuary, but this project could advance much more rapidly with a better supply of specimens.

Virology

Several surveys are currently proceeding in the Virology department. These are aimed at obtaining intelligence of the viruses prevalent in the community at any given time, and if possible to gain forewarning of epidemics. The commitments which we have accepted as a World Health Organisation Influenza Observing Laboratory also come under this category.

The original scheme in which selected general practitioners acted as "spotters" lapsed from lack of co-operation, and so the following new projects are at present under development:—

(1) Approval has now been obtained for the establishment of a clinic in the City where specimens can be collected for studies of respiratory viruses such as influenza, common cold, etc.

(2) The co-operation of the Royal Alexandra Hospital for Children has been enlisted and specimens from children with respiratory illnesses will be regularly collected at their out-patients' clinics.

(3) The School Medical Service has agreed to assist in procuring specimens from school children suffering from viral infections through the School Health Centres.

(4) Preliminary arrangements have been made with a large public school to co-operate by providing specimens from children with respiratory infections. This school has a large boarding establishment and also draws day pupils from all over the metropolitan area, so it should be a most useful source of specimens.

These four projects are aimed at providing a regular and reliable source of material for study of respiratory virus infections.

The survey of enterovirus infections in infantile diarrhoea has continued. Several previously underscribed viruses have been discovered from this source and work aimed at defining their characteristics is proceeding.

A detailed investigation into an outbreak of Q-Fever at Homebush Abattoirs was carried out in collaboration with the department of Bacteriology and the Metropolitan Medical Officer of Health. The Institute is also co-operating with the Department of Agriculture in a survey of the incidence of Q-Fever infections in cattle and is also collaborating on an investigation of the incidence of this disease in abattoir workers.

GENERAL

Administration

The broad administrative structure of the Institute described in previous reports has continued to function reasonably well, but the establishment of the new Department of Exfoliative Cytology, coupled with the general increase in the amount of routine work, has involved a considerable augmentation of the administrative load. As an entirely new routine of administrative procedures had to be devised to accommodate the records and reporting for Exfoliative Cytology, the opportunity was taken, in collaboration with Mr. P. Stanley of the Organization and Methods Group of the Public Service Board, to re-organize the entire administrative component of the Institute. Essentially, the aim was to improve the office procedures and record systems in such a way that:—

(*a*) the preparation and despatch of reports were hastened;

(*b*) the results of previous investigations on any particular patient were readily available;

(*c*) telephone enquiries relating to the results of investigations could be answered with a minimum of delay;

(*d*) clerical personnel were used whenever possible to reduce the amount of writing which hitherto had been done by professional and technical staff, so that the time of the latter could be more economically used in exercising their special experience and skills;

(*e*) unnecessary clerical work and record-keeping were eliminated.

Although the modifications which were introduced to attain these ends involved an increase in the clerical staff, the benefits which have accrued in the way of increased efficiency, not to mention economy in the use of the time of the professional and technical staff, have made this a sound investment. Detailed discussion of the innovations which were introduced would be out of place in this report.

ANCILLARY SERVICES

Photography

During the year the Institute has been without the services of an official photographer, so that comparatively little gross photographic work was done. However, several members of the senior staff have now acquired sufficient experience at photomicrography to produce quite creditable results and a large number of colour lantern slides have thus been accumulated for teaching purposes. This applies particularly in Exfoliative Cytology.

Workshop

Greatly enlarged workshop accommodation, in the new wing of the building, was occupied early in the year. This is a very great improvement, as the workshop is one of the most important ancillary services and its previous improvised accommodation was quite inadequate.

The demands on the workshop have been heavy throughout the year both for maintenance of existing equipment and construction of new apparatus. While the quality of the work done has been of the highest order, the number of jobs completed has been disappointing, so that a considerable backlog exists. The appointment of a workshop assistant during the latter part of the year has greatly improved the position. The Scientific Instrument Maker can now be relieved of much of the less specialized work so that his time can be used more economically.

Library

In the extensions to the building provision was made for increased library accommodation. This had become necessary as the original space had soon become quite inadequate because of the rapid accumulation of texts and journals. The library has now been properly organized and is supervised by a full-time library assistant.

Conclusion

This year has been one in which there has been an all-round expansion in the activities of the Institute of Clinical Pathology and Medical Research. There has been a conspicuous increase in the volume of work done in all departments and in the case of some the amount of work has more than doubled. At the same time as this quantitative increase in the amount of work has occurred there has been a qualitative increase as well, in that the variety of investigations offered has been steadily broadened not only within existing departments but actually extending to the establishment of an entirely new department, in the case of Exfoliative Cytology.

In order to accommodate this increase in the amount and scope of work undertaken it has been necessary to reinforce the staff and increase the available laboratory space by construction of the extensions to the existing building. Many of the investigations now undertaken at the Institute were not previously available in New South Wales, or, if they were available, were restricted to patients attending at a few specialised hospitals. That they are now generally available to the entire population must add materially to the quality of medical practice in this State.

The coming year will see yet another development in that it is now planned to incorporate the Serology department, which at present still operates at 93 Macquarie Street. Apart from carrying out routine venereal disease serological examinations this department is to become the reference laboratory for Treponema pallidum immobilization tests serving the whole of Australia. With the addition of this department to the existing facilities the Institute will be able to offer a virtually complete Clinical Pathology service.

It is a pleasure to pay tribute to all members of the staff of the Institute. They have always reacted with enthusiasm to any proposals aimed at improving the output and quality of work, and it is to this spirit that the results achieved to date are attributable. That it has been possible to encourage and maintain this enthusiasm is due in no small measure to the co-operation and support which we have enjoyed from the central administration of the New South Wales Department of Public Health and other Government Departments, notably the Public Service Board, the Government Stores Department and the Department of Public Works. A happy relationship exists with the Lidcombe State Hospital and also with the many hospitals and medical practitioners served by the Institute, and so long as this can be maintained all members of the staff should continue to find the work congenial and rewarding.

APPENDIX A

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

STATISTICAL SUMMARY OF SPECIMENS RECEIVED AND EXAMINATIONS COMPLETED—1ST JANUARY, 1962 TO 31ST DECEMBER, 1962

Histopathology

	1961	1962
Number of specimens—		
Surgical biopsy	6,553*	9,413
Exfoliative Cytology	317	547
Post Mortems (internal)	209	222
Post-Mortems (external)	..	93
Miscellaneous	70	150
	7,149	10,425
Examinations completed—		
Paraffin sections	14,232	21,412
Frozen sections	97	101
Exfoliative cytology smears	594	1,020
Miscellaneous	70	150
Total examinations completed	14,993	22,683

* includes post-mortems (external).

Haematology

	1961	1962
Number of specimens	4,299	4,665
Examinations completed—		
Haemoglobin	3,297	3,360
Haematocrit	558	2,505
Red cell count	58	41
Reticulocytes	152	122
White cell count	1,057	1,384
Differential white cell count	647	1,029
Eosinophil count	30	47
Platelet count	102	177
Examination of blood film	3,390	3,448
Malaria	3	8
Blood sedimentation rate (E.S.R.)	1,095	1,207
L.E. cells	20	57
Prothrombin time	193	161
Examination of blood film for lead	2	5
Group and Rh factor	299	361
Cross-matching	101	188
Bone marrow examination	38	53
Bleeding and clotting times	8	18
Investigation of haemostatic defects	9	9
Serum vitamin B_{12}	262	579
Serum folic acid	..	171
Radio-isotope tracer method		
Blood volume	3	5
Red cell survival	..	6
Schilling test	6	18
Coomb's test	57	99
Red cell fragility	2	4
Paul-Bunnell reaction	194	209
Miscellaneous	14	20
Total examinations completed	11,597	15,291

Biochemistry

	1961	1962
Number of specimens	7,112	8,590
Examinations completed—		
C.S.F. for—		
Chloride	121	71
Colloidal mastic reaction	824	941
Globulin	121	66
Glucose	87	54
Protein	141	90
Blood and Serum for—		
Acid phosphatase	282	287
Alkaline phosphatase	923	1,084
Amylase	73	71
Bilirubin	760	970
Bromide	22	56
Calcium	152	177
Carbon dioxide combining power	166	259
Chloride	605	959
Cholesterol	318	267
Creatine	4	6
Creatinine	49	61
Glucose	502	374
Glucose tolerance	69	61
Glutamic pyruvic transaminase	117	359
Glutamic oxalacetic transaminase	139	333
Iron	86	187
Iron binding capacity	81	187
Methaemoglobin	4	4
Phosphate (inorganic)	109	115
Potassium	624	975
Proteins—total	645	1,375
Proteins—albumin	283	894
Proteins—globulin	288	908
Proteins—electrophoresis	414	550
Protein-bound iodine	..	51
Sodium	615	972
Sulphaemoglobin	1	2
Thymol turbidity	309	—
Urea	1,967	2,289
Uric acid	297	392
Zinc turbidity	741	883
Faeces for—		
Fats	206	252
Occult blood	296	281
Tryptic activity	1	7
Gastric fluid for general analysis	101	77
Urine for—		
Bilirubin	4	10
Diastase	2	1
Catechol amines	107	355
17-ketogenic steroids	169	409
17-ketosteroids	269	528
Urea	56	144
Calculi for analysis	38	58
Miscellaneous chemical examination	572	955
Total examinations completed	13,760	19,407

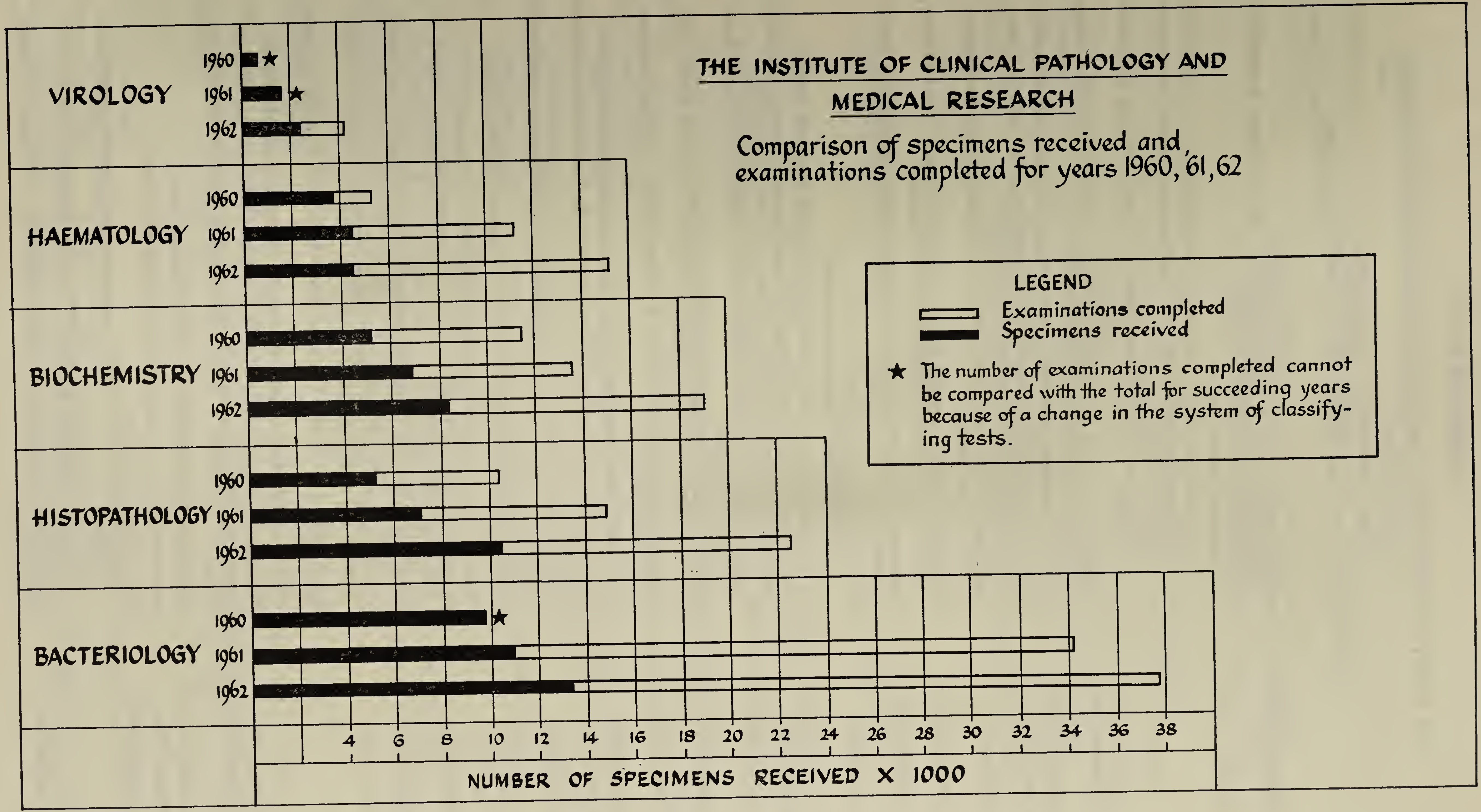
Bacteriology	1961	1962
Number of specimens	11,180	13,300
Examinations completed—		
Antibiotic sensitivity tests	15,066	15,224
Blood culture	34	33
Cerebrospinal fluid cell count	101	61
Cerebrospinal fluid culture	9	4
Dark-ground preparation, spirochaetes	3	7
Escherichia coli, serotype identification	185	428
Faeces, microscopic examination	67	114
Faeces, culture	567	943
Guinea pig inoculation, *M. tuberculosis* (other than milk)	231	303
Haemolytic streptococci, Lancefield grouping	128	116
Milk, guinea pig inoculation, *M. tuberculosis*	144	115
Milk, guinea pig inoculation, *B. abortus*	144	115
Nasal smears, *Mycobacterium leprae*	35	36
Nasal swabs, culture	524	246
Pus, Gram's stain	677	517
Pus, culture	677	517
Culture, identification	251	378
Skin, hair and nail, direct examination	135	145
Skin, hair and nail, culture for fungi	138	122
Sensitivity tests, *M. tuberculosis*	2,280	2,677
Sputum, Gram's stain	389	432
Sputum, culture	389	432
Sputum, Ziehl-Neelsen stain	2,470	2,428
Sputum, culture	2,470	2,428
Staphylococcus aureus, bacteriophage typing	360	474
Sterility tests	16	2
Throat swab culture	593	889
Urethral smears, Gram's stain	1,568	1,835
Cervical smears, Gram's stain	1,046	1,223
Urine, chemical examination	1,211	1,525
Urine, microscopic examination	1,211	1,525
Urine, Gram's stain	552	670
Urine, culture	552	670
Vaccines	54	34
Vaginal discharge, *Candida albicans*	43	47
Vaginal discharge, Trichomonads	6	16
Miscellaneous bacteriology	37	12
Brucella agglutination test	248	225
C-reactive protein test	154	20
Rose-Waaler test	286	521
Weil-Felix reaction	80	40
Widal reaction	98	97
Anti streptolysin O titre	71	240
Casoni test	1	9
Mantoux test	122	133
Total examinations completed	35,423	38,028

Virology	1961	1962
Number of specimens	1,792	2,468
Examinations completed	*1,618	4,418

* The figure of 1,618 for 1961 actually represents only the number of reports issued and is considerably less than the number of examinations completed; consequently it cannot be accurately compared with the corresponding figure for 1962.

Exfoliative Cytology	1961	1962
Number of smears examined—		
Gynaecological		15,504
General		176
		15,680
Chorionic Gonadotrophin Assay (Galli-Mainini)	58	254

Total Number of Investigations Completed	1961	1962
Histopathology	14,993	22,683
Haematology	11,597	15,291
Biochemistry	13,760	19,407
Bacteriology	35,423	38,028
Virology	1,618	4,418
Cytology	..	15,680
Chorionic Gonadotrophin Assay	58	254
	77,449	115,761



THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Comparison of specimens received and, examinations completed for years 1960, '61, '62

★ The number of examinations completed cannot be compared with the total for succeeding years because of a change in the system of classifying tests.

APPENDIX B

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Weekly Seminars Held during 1962

(In Conjunction with the Lidcombe State Hospital and Home)

Date	Subject and Speaker
5th February, 1962.	" Rehabilitation: Its Place in the Community " (Dr. R. Tinsley, Rehabilitation Medical Officer, Lidcombe State Hospital).
12th February, 1962.	" Symposium on Malabsorption " 1. Clinical Aspects (Dr. S. Sax, Lidcombe State Hospital). 2. Biochemical Investigation (Dr. R. Reid, Institute of Clinical Pathology and Medical Research). 3. Haematology (Dr. T. J. Gaha, Institute of Clinical Pathology and Medical Research).
19th February, 1962.	" Ergonomics " (Human Engineering) (Mr. N. J. C. Peres, Division of Occupational Health, N.S.W. Department of Public Health).
26th February, 1962.	" The Extra-Corporeal Circulation " (Dr. R. Holland, Lidcombe State Hospital).
5th March, 1962.	" The Investigation of Urinary Ketosteroids as a Diagnostic Aid " (Dr. R. N. Beale, Institute of Clinical Pathology and Medical Research).
12th March, 1962.	" Skin Manifestation of Internal Disease " (Dr. E. Kocsard, Honorary Dermatologist, Lidcombe State Hospital).
19th March, 1962.	" The Modern Approach to Mental Health: Group Psychotherapy " (Dr. W. Barclay, Medical Superintendent, North Ryde Psychiatric Centre.)
26th March, 1962.	" Metastasis " (Dr. H. Kramer, Director, Institute of Clinical Pathology and Medical Research).
2nd April, 1962.	" Symposium on the Myopathies ". 1. Dr. N. R. Fink, Lidcombe State Hospital. 2. Dr. Brian Turner, Neuropathologist, North Ryde Psychiatric Centre.
9th April, 1962.	" The Investigation of an Outbreak of 'Q' Fever " (Dr. D. Hansman, Mr. A. M. Murphy, The Institute of Clinical Pathology and Medical Research).
16th April, 1962.	" Thrombocytopenia " (Dr. Barry Firkin, Director, Clinical Research Unit, Royal Prince Alfred Hospital).
21st May, 1962.	" Investigation of Liver Disease with Particular Reference to Liver Biopsy " (Dr. E. Coodley, Lidcombe State Hospital).
28th May, 1962.	" Ascites and Hepatic Fibrosis " (Dr. I. J. Hunter, Institute of Clinical Pathology and Medical Research).
11th June, 1962.	" Alcoholism and its Management " (Dr. M. Frame, Parramatta Mental Hospital).
18th June, 1962.	" The Use and Abuse of Common Hormones " (Dr. C. R. Deuchar, Lidcombe State Hospital).
25th June, 1962.	" Exfoliative Cytology " (Dr. T. J. Ryan, Institute of Clinical Pathology and Medical Research).
2nd July, 1962.	" Psychiatric Problems in Childhood " (Dr. Bruce Stephen, Dr. Alan Jennings)
9th July, 1962.	" Gangrene " (Dr. J. Moulton, Lidcombe State Hospital).
16th July, 1962.	" Staphylococcal Infection " (Dr. S. Fisher, Kanematsu Memorial Institute of Pathology, Sydney Hospital).
23rd July, 1962.	" Serum Folic Acid " (Dr. B. Arnold, Institute of Clinical Pathology and Medical Research).
30th July, 1962.	" The Nature and Structure of Elastin " (Dr. K. B. Taylor, Institute of Clinical Pathology and Medical Research).
	" Elastin, Collagen and Calcium Content of Human Aorta " (Dr. E. J. Cleary, Sydney University).
	" The Pressure Pulse in the Aorta " (Professor M. G. Taylor, Sydney University).
13th August, 1962.	" Presentation of Unusual Chest X-rays " (Dr. A. Fraser, Lidcombe State Hospital).
17th September, 1962.	" Interview with Linus Pauling " (16 mm. Sound Film, by courtesy of Canadian Film Office).
24th September, 1962.	" Resuscitation " (Dr. Ross Holland, Lidcombe State Hospital).
8th October, 1962.	" Iatrogenic Disease " (Dr. John Sands, Royal North Shore Hospital)
15th October, 1962.	" Bone: Laboratory Aspects ". Bone Metabolism: Dr. T. Turner, Institute of Clinical Pathology and Medical Research. Laboratory Investigation of Bone Disease: Mr. J. Bostrom, Institute of Clinical Pathology and Medical Research.
22nd October, 1962.	" Osteoporosis " (Pathogenesis and Clinical Aspects Dr. S. Shulman, Lidcombe State Hospital).

APPENDIX B—*continued*

WEEKLY SEMINARS HELD DURING 1962—*continued*

Date	Subject and Speaker
29th October, 1962.	"Auto-Immune Disease" (Professor R. W. Pitney, The Prince Henry Hospital and University of New South Wales).
5th November, 1962.	"Strokes" 1. Clinical Manifestations (Dr. D. D. Silver, Lidcombe State Hospital). 2. Pathological Anatomy (Dr. I. J. Hunter, Institute of Clinical Pathology and Medical Research). 3. Radiological Investigation (Dr. Michael Shellshear, Royal North Shore Hospital).
12th November, 1962.	"Adult Hypothyroidism" 1. Clinical Features (Dr. N. R. Fink, Lidcombe State Hospital). 2. Biochemical Investigation (Dr. P. Harden, Institute of Clinical Pathology and Medical Research). 3. Pathology (Dr. K. Withers, Institute of Clinical Pathology and Medical Research).
19th November, 1962.	"Psychosomatic Medicine" (Dr. David Ross, Royal Prince Alfred Hospital).
26th November, 1962.	"An Aspect of Psycho-Pharmacology" (Dr. Ross Davis, Cerebral Surgery and Research Unit, Callan Park Mental Hospital).
3rd December, 1962.	"The Eye in Diabetes Mellitus" (Dr. Eunice Wilson, Lidcombe State Hospital and St. George Hospital).

APPENDIX C

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

PUBLICATIONS BY STAFF MEMBERS

"Plasma Therapy in Haemophilia"*. B. J. Arnold (with W. R. Pitney, Department of Haematology, Royal Perth Hospital, Perth W.A.). Med. J. Aust. II, 661, 1960.

"A Sensitive Method for the Colorimetric Determination of Urea." R. N. Beale and D. Croft. J. clin. Path., 14, 418, 1961.

"Rapid Incremental Methods for the Determination of Serum Iron and Latent Iron Binding Capacity." R. N. Beale, J. O. Bostrom and R. F. Taylor. J. clin. Path., 14, 488, 1961.

"Herpes Simplex of the Fingers." A. M. Murphy (with A. Chancellor, Merrylands, N.S.W.) Med. J. Aust., I, 517, 1961.

"Improved Rapid Methods for the Determination of Iron Content and Binding Capacity of Serum." R. N. Beale, J. O. Bostrom and R. F. Taylor, J. clin. Path., 15, 156, 1962.

"The Determination of Cholesterol in Serum by Persulphuric Acid Oxidation." R. N. Beale and D. Croft. J. clin. Path., 15, 221, 1692.

"The Determination of Urinary 17-ketosteroids by an Improved Zimmermann Reaction." R. N. Beale ,J. O. Bostrom and D. Croft. J. clin. Path., 15, 574, 1962.

"The Megaloblastic Anaemias." B. J. Arnold. Med. J. Aust. II, 698, 1962.

"Plasma Anti Haemophilic Factor (Factor VIII) Concentrations in Normal Families."* B. J. Arnold (with W. R. Pitney, R. L. Kirk and N. S. Stenhouse) Brit. J. Haem. 8, 421, 1962.

"A Fatal Case of Listeria Septicaemia and Meningitis." D. Hansman (with J. C. Farrell, Fairfield District Hospital, N.S.W.) Med. J. Aust. II, 62, 1962.

* Work done before joining the staff of the Institute.

Publications in Press

"Q Fever among Abattoir Workers in New South Wales." A. M. Murphy and D. Hansman (with J. Henson, Medical Officer of Health, Tamworth, N.S.W.). Med. J. Aust.

"Sensitive Methods for the Titrimetric Micro-Determination of Biological Calcium and Magnesium." R. N. Beale and J. O. Bostrom. J. clin. Path.

"Polio virus in an Infant's Home." A. M. Murphy and N. Martin (with H. Walsh) Med. J. Aust.

Work in Preparation

"Biological Copper and its Determination with Acetaldehyde-Oxalyldihydrazide." R. N. Beale and D. Croft.

"Viruses isolated from cases of infantile diarrhoea." "Coxsackie B4 infections in New South Wales in 1962." "Studies on an unusual group of enteroviruses." A. M. Murphy and co-workers.

APPENDIX D

THE INSTITUTE OF CLINICAL PATHOLOGY AND MEDICAL RESEARCH

Addresses to Learned Societies by Staff Members During 1962

" Biological Copper and its Determination by Oxalyldihydrazide." Given by D. Croft to the Australian Association of Clinical Biochemists, N.S.W. Branch, July, 1962.

" Virus Diseases " by A. M. Murphy. Read before the Border Medical Association, Albury, for The Post-Graduate Committee in Medicine of the University of Sydney, July, 1962.

" Current Viruses " by A. M. Murphy. Read before the Border Medical Association, Albury, for The Post-Graduate Committee in Medicine of the University of Sydney, July, 1962.

" Some Haematological Effects of Dapsone " by B. J. Arnold. Read at the Annual General Meeting of the College of Pathologists of Australia, Sydney, August, 1962.

" Serum Folic Acid Levels in the Investigation of Anaemia " by B. J. Arnold. Read at the Inaugural Meeting of the Haematology Society of Australia, Melbourne, August, 1962.

" How Can We Achieve Maximum Efficiency in Virological Diagnosis?" by A. M. Murphy, invited speaker at a Symposium on " The Functions and Limitations of Virus Diagnostic Laboratories." Read before Section I (Microbiology), Australian and New Zealand Association for the Advancement of Science, Sydney, August, 1962.

" The Laboratory Diagnosis of Virus Diseases " by A. M. Murphy. Read before the College of Pathologists of Australia, N.S.W. Section, October, 1962.

STATE HOSPITALS AND HOMES

Report of the Director, Division of Establishments to the Director-General of Public Health

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During 1962 a daily average of 2,264 persons were accommodated in the various establishments maintained by the Department of Public Health *viz.* Randwick, Garrawarra, Lidcombe, Newington, Strickland and David Berry. By far the largest of the establishments is Lidcombe where a daily average of 1,514 patients and inmate workers were accommodated.

The Statistical Summary set out herein shows that the gross cost of these establishments against government funds for the year was £1,713,934 against which there was a set-off of £343,164 in respect of sales of waste, maintenance charges to patients and payments by the Commonwealth Government.

The nett cost of maintenance was £13 0s. 9d. per patient per week as compared with £10 14s. 3d. per week in the previous year.

LIDCOMBE STATE HOSPITAL AND HOME

A significant item of interest was the appointment of 25 General Servants to work in the ward pantries in place of inmate workers who previously carried out these duties. A new 400 bed multi-storey Admission Block is in process of planning and is to be erected on the present site of Wards 9, 10 and 11.

New patient activity is being fostered and a monthly publication named the *Forum* has been produced with a view to interesting patients and staff. It is hoped that this with other vigorous action will help to overcome the institutionalism of patients and staff. Arrangements have also been made for some of the patients to attend sheltered workshops conducted by the Civilian Maimed and Limbless Association.

During the year approximately 100 patients were received on transfer from Callan Park, Parramatta and Tomaree Mental Hospitals and have been comfortably accommodated at Lidcombe.

NEWINGTON STATE HOSPITAL AND HOME

As mentioned in my previous report this hospital is in the process of being closed down and during this year the patients were reduced from 176 at 31st December, 1961 to 134 at the 31st December, 1962. The land will eventually be disposed of for industrial purposes but it is first necessary to provide accommodation at Garrawarra Hospital for patients who cannot be discharged from Newington. Action in this regard is to be taken by the renovation of the section of Garrawarra previously used for female patients. It is anticipated that this accommodation will be available in 1963-64.

In the meantime surplus accommodation available at Newington has been used for the temporary housing of patients from Callan Park Mental Hospital whilst repairs and renovations to wards are being carried out at Callan Park.

GARRAWARRA HOSPITAL, WATERFALL

The further ward to be remodelled as mentioned in my previous report *viz.* Ward 8 was completed during this year and has now been fully occupied. Plans for a new Nurses Home have been prepared and a tender for construction of the building is soon to be let. The estimated cost of the work is £88,500.

STRICKLAND HOUSE, VAUCLUSE

The expansion and development of this hospital has continued and the daily average of patients increased from 82 in the previous year to 118 for 1962. Visits by an Almoner and a Librarian have been made during the year. An Occupational Therapist was appointed also but resigned and the post is at present vacant.

RANDWICK CHEST HOSPITAL

This hospital has continued to function as the principal T.B. hospital administered by the Public Health Department. During the year there has been an increase in the number of outpatients treated. An air-conditioning unit was installed in the X-ray Department and also a water temperature control.

Occupational therapy work has increased with the installation of wood-working machinery and a printing press. The Citizens T.B. League as before has provided necessary equipment and component parts for the manufacture of waste paper baskets and magazine tidies.

DAVID BERRY HOSPITAL

This small hospital continued to give service as a general hospital for the residents of the Berry District. During the year a clothes dryer was installed and also a respirator which was donated by the Berry Rotary Club.

G. S. PROCOPIS, Director,
Division of Establishments.

Director-General of Public Health.

Lidcombe State Hospital—Annual Report, 1962

POPULATION STATISTICS

Number of beds available as at 31st December, 1962:—

Hospital	859
Home	781
Total	1,640

Daily average number of patients resident in Hospital and Home Sections:—

1953	1,171	1958	1,475
1954	1,216	1959	1,484
1955	1,297	1960	1,446
1956	1,347	1961	1,487
1957	1,374	1962	1,498

Admissions, Transfers, Discharges and Deaths:—

Admissions	Hospital Section	Home Section	Total
In institution 1st January, 1962	786	679	1,465
Admissions	1,141	1,698	2,839
Transfers within institution	779	618	1,397
Total admitted	2,706	2,995	5,701
Discharges and Deaths—			
Discharges	720	1,555	2,275
Deaths	568	12	580
Transfers within institution	618	779	1,397
Total discharged or died	1,906	2,346	4,252
In institution 31st December, 1962	800	649	1,449
Total	2,706	2,995	5,701

Casual Relief: 448 indigent persons were provided with sleeping accommodation for one night and 896 were supplied with a meal.

Operations: 555 operations (387 major and 168 minor) were performed.

Anaesthetics: 355 general anaesthetics were given and 174 by conduction techniques (spinal regional and local).

Autopsies: 222 autopsies were performed.

X-ray Examinations: 5,352 patients and staff were examined in the X-ray Department.

Electrocardiograms: 1,431 electrocardiograms were taken.

Laundry: 2,079,428 articles were laundered.

Standard Staff Establishment

Honorary Surgeons	2	Honorary Plastic Surgeons	2
Honorary Consulting Urological Surgeon	1	Honorary Dermatologists	2
Honorary Ophthalmic Surgeons	2	Consulting Chest Physician	1
Honorary Orthopaedic Surgeons	2	Consulting Chest Surgeon	1
Honorary E.N.T. Surgeons	2	Radiologist	1
Honorary Neuro-Surgeon	1	Dentist	1
Honorary Neurologists	2		

Resident Medical Staff

Medical Superintendent and Chief Executive Officer	1	Director of Physical Medicine and Rehabilitation	1
Deputy Medical Superintendents	2	Psychiatrist	1
Staff Physician	1	Assistant Anaesthetist	1
Staff Surgeon	1	Medical Officers	10
Staff Anaesthetist	1		

Administrative and Clerical Staff

Manager	1	Office Assistants	6
Assistant Manager	1	Medical Secretary	1
Senior Clerk	1	Clerk (Grade 1 O.S.)	1
Clerks (Incremental)	5	Shorthand writers and Typistes	3

Female Nursing Staff

Matron	1	Supervising Night Sister	1
Sub-Matron	1	Theatre Supervisor	1
Home Sister	1	Sisters and Experienced Nurses	75
Tutor Sister	1	Trainees for Assistants-in-Nursing	16

Male Nursing Staff

Chief Attendant	1	Supervising Attendants	2
Deputy Chief Attendant	1	Senior Attendants	28
Night Chief Attendant	1	Attendants	195

Auxiliary Medical Staff

Social Workers	4	Speech Therapist (Part-time)	1
Occupational Therapists	5	E.E.G. Recordist	1
Physiotherapists	4	Recreation Officer	1
Radiographers	2	Instructor-in-Woodwork	1
Radiographer-in-Training	1	Medical Gymnast	1
Dispenser	1	Chiropodist (Part-time)	1
Dispensary Assistant	1		
Clinical Psychologist (Part-time)	1		

Female Outdoor Staff

Cooks	2	Seamstresses	5
Housemaids	10	Telephoniste	1
General Servants (Ward Duties)	27		

Artisans

Engineers	2	Painters	2
Mechanical Fitter	1	Plasterer-bricklayer	1
Electricians	2	Plumbers	2
Firemen	3	Motor driver	1
Carpenters	3		

Male Outdoor Staff

Storekeeper	1	Outdoor Attendants	12
Store Assistants	2	Gardeners	3
Catering Officer	1	Laundrymen	12
Cooks	7	Cleaners	32
Kitchenmen	6	Barbers	2
Overseer	1	Butcher	1

Narrative

The Staff Reviewing Committee met at Lidcombe State Hospital during 1962 and recommended the appointment of additional staff in several sections. For this reason the figures indicating the present staff establishment are given above in some detail.

The most noteworthy items are the addition of 24 female nurses and the replacement of inmate workers in certain ward pantries by 25 general servants.

Three new houses for medical officers were completed and a new roadway constructed to serve this residential area containing a total of 5 houses.

The exteriors of wards 4, 5, 6, 7, 16, 17, 18, 19 and 20 were painted.

Ward 10 has for the time being, become the Rehabilitation Ward, because of its close proximity to the present Department of Physical Medicine and Rehabilitation.

A comfortable lounge and games room for the patients in ward 10 has been created from what was previously a ward annexe. The whole of the interior of the ward has been painted, the verandah being done by a group of volunteers.

Frata House, the recently created ward for the treatment of alcoholism has been functioning satisfactorily throughout the year.

The new concert and church hall is approaching completion and will be available for use early in 1963.

Work has just begun on the remodelling of the kitchen block in the chronic section of the hospital for the purpose of converting it into a modern Department of Physical Medicine and Rehabilitation.

A very extensive remodelling of Ward 29, a ward for blind patients, has also just begun.

Work has been progressing steadily on the part of the hospital staff and the architects on the preparation of the plans for the new 400 bed admission block which is to be erected on the site of the present wards 9, 10 and 11.

The general plans have now been completed and work is in progress on the fittings and furnishings.

The installation of 4 new washing machines in the hospital laundry has been completed.

The bowling green which had been unused for some years, has been re-established. This was greatly assisted by the efforts of the Bowling Green Keepers' Association of N.S.W. who contributed a considerable amount of time and material for its restoration.

A Bowling Club has been formed and visits to and from other clubs have begun.

During the year a good deal of work has gone into encouragement of the staff and the patients to participate in the affairs of the hospital to a greater extent than in the past. This has been in line with the general policy of trying to reduce the effect of "institutionalisation" on both patients and staff.

Considerable assistance in this type of development was given voluntarily by the organisation known as "Social Surveys". Groups have been formed among patients and staff and regular group meetings take place. Joint consultation meetings are also held, representatives of the various groups conferring regularly with the administration in an advisory capacity.

Arising out of the activation programme have been such developments as : the publication of a monthly hospital journal known as *The Forum*; also an arrangement whereby some of our disabled patients attend the sheltered workshops of the Civilian Maimed and Limbless Association in and around Sydney, as preliminary training for our own sheltered workshop which is planned in the near future.

Social activity within the hospital from interested groups and people outside of the institution has grown considerably during the year and regular visiting from these groups is now an accepted feature.

Later it is planned to co-ordinate the activities of all people interested in the welfare of the hospital and its patients into a formal " Lidcombe State Hospital Auxiliary ".

Slow but definite improvement is being effected in the dress of the patients.

This has been assisted by the provision of wardrobe lockers in some wards and dormitories and by the issue in limited quantities of better-type clothing.

During the year more than 100 patients were accepted from Callan Park, Parramatta and Tomaree Mental Hospitals.

Medical activity has been steadily increasing. In addition to the weekly seminars held in conjunction with the Institute of Clinical Pathology and Medical Research, weekly bedside clinical meetings have been conducted as well as clinico-pathological conferences, socio-medical conferences and neurological clinics.

An increasing number of postgraduates and undergraduates have attended clinical sessions or become acquainted with some of the clinical work going on.

With the objective of making provision for those interested in research the preliminary work for the establishment of a Unit of Clinical Investigation has begun. It is hoped to start this Unit next year.

The initial meeting of the Gerontological Society of New South Wales was held at Lidcombe State Hospital during the year. Office bearers for the Society include Dr. G. C. Hughes, President, Dr. S. Sax, President-Elect, and Dr. I. Hunter of the Institute of Clinical Pathology and Medical Research, Vice-President.

Dr. G. Kellerman was granted leave of absence during 1962 in order to take up the position of Anaesthetic Registrar at Royal North Shore Hospital.

Strickland House, Vaucluse—Annual Report, 1962

(a) STAFF

Matron	1	
Visiting emergency Medical Officer	1	
Clerical Officer	1	
Office Assistant	1	
Trained Nurses	4	
Assistant Nurses	7	
Female Domestic Staff	11	
Day Attendants	2	
Night Attendant	1	Vacancy
Occupational Therapist	1	Vacancy
Part-time Seamstress	1	Vacancy

(b) Brief Statement of Functions and Responsibilities

This hospital is an approved Benevolent Home under Section 18 of the Social Services Act. The functions of this hospital are to provide accommodation for a full female patient population of 108 Home Section Inmates and a full male population of 21 inmate workers. The responsibilities of the hospital are the care and welfare of the female and male inmates, and the claiming of maintenance each quarter, from the Department of Social Services and the Repatriation Department, for female and male inmates receiving Age, Invalid or Service Pensions.

(c) Description of Routine Work Carried out during the Year

Normal routine nursing of aged and invalid inmates was carried out during the year with a weekly visit from the emergency Medical Officer attached to Randwick Chest Hospital. Any female inmates requiring medical attention were transferred to Randwick Chest Hospital for treatment. Inmate workers requiring medical attention were transferred to Lidcombe State Hospital. During the year 87 female inmates were admitted, 16 from Garrawarra Hospital, 3 from Newington State Hospital, 2 from Broughton Hall and the remainder through the Social Worker at the Department of Public Health. 71 male inmates were admitted through the Hospital Admission Depot at 93 Macquarie Street.

(d) Comments on any Interesting Developments

Visits by Almoner to female inmates on Monday and Friday mornings. Visits on Fridays by a Departmental Librarian.

(e) Special Investigations Undertaken

Calls for no special comment.

(f) Comments on Difficulties Experienced

The appointment and resignation of a part-time Occupational Therapist who resigned because of insufficient room and facilities for occupational therapy to be given to female inmates.

The necessity for a pedestrian path from the hospital grounds to the main entrance gates of this hospital has now been included in this hospital's maintenance programme.

(g) Statistical Appendix Dealing Mainly with Population Figures

Tables of comparative population is attached.

	1961			1962		
	Patients Female	Inmate Workers Male	Total	Patients Female	Inmate Workers Male	Total
Admitted	79	105*	184	87	71	158
Discharged	50	86	136	66	69	135
Daily Average	64·2	18	82·2	99·6	19·2	118·8
No. of Bed Days	23,543	6,537	29,990	36,353	7,022	43,375

* Includes 20 Male Inmate Workers who were admitted from the Convalescent Section to the Home Section when this Hospital became a Benevolent Home on 10th March, 1961.

Daily Average Population	1961	1962
Female Patients	64·2	99·6
Male Inmate Workers	18	19·2
Staff Female	19	24
Staff Male	4	3
Total	105·2	145·8

Newington State Hospital and Home—Annual Report, 1962

A. STAFF

Hon. Medical Staff. Neurologist—vacant. Ophthalmic Surgeon—vacant.

Medical Staff. J. McManamey, Medical Superintendent. M. Henley, Medical Officer. Vacant, Medical Officer.

Dispenser (Part time). 1.

Clerical Staff. Manager, Senior Clerk, 3 Office Assistants.

Nurses: 65.

Male Outdoor Staff: 35.

Female Outdoor Staff: 40.

B. ADMISSIONS AND DISCHARGES

	Hospital (Female)	Male Inmates	Callan Park Section (Males) Occupied 10th September, 1962
Remaining in Hospital 1st January, 1962 ..	176	71	Nil
Admissions during year	58	372	135
Sub Total 1	234	443	135
Discharges during year	62	372	24
Deaths during year	38	..	..
Sub Total 2	100	372	24
Remaining in Institution as at 31st December, 1962	134	71	111
Average Daily Number Resident	160	72	101

Hospital Division Statistics

Beds available	138
In hospital as at 1st January, 1962	176
Admissions during year	58
Discharges during year	62
Deaths during year	38
Remaining in hospital 31st December, 1962	134

1. Discharges 62 includes 38 patients transferred to Garrawarra Hospital and 3 patients transferred to Strickland.

2. Beds available figure of 138 does not include:—

10 Beds in Ward D.	Ward closed unfit for occupation.
27 Beds in Ward E.	Ward closed unfit for occupation.
50 Beds in Ward H.	Ward closed, being renovated. Ward not re-opened.
50 Beds in Ward G.	Ward closed 12th December, 1961.
30 Beds in Ward B.	Ward closed 21st December, 1962.

The Female Yard Section which had been closed since 25th July, 1961 was reopened on 10th September, 1962 to provide temporary accommodation for male patients from Callan Park Hospital whilst wards at that hospital are being renovated.

Randwick Chest Hospital

The following are the Statistics summarizing activities of this hospital during the twelve months ending 31st December, 1962.

Indoor Patients	Male	Female	Total	Male	Female	Total
Patients under treatment on 31st December, 1962				106	47	153
Admitted during 1962				386	117	503
				492	164	656
Died during 1962	44	19	63	..	..	..
Discharged during 1962	314	113	427	..	..	..
Total died and discharged during 1962				358	132	490
Remaining in Hospital on 31st December, 1962				134	32	166

Daily average number of resident patients	160
Number of individuals who received outdoor treatment	..
Total number of visits by outpatients	..

INMATE WORKERS

In the institution on 31st December, 1962	11
Admitted during 1962	12
	23
Discharged during 1962	14
Remaining in the institution on 31st December, 1962	9
General daily average number including workers	171

AUTOPSIES

There were 63 deaths during the year and 30 autopsies were performed.

X-RAY DEPARTMENT

X-ray examinations	4,636
Barium meal examinations	114
Screenings	114
Films used	8,257
Dental films used	138
Tomograms	187
Portables	193

PATHOLOGICAL LABORATORY

Specimens submitted for examination	10,192

OPERATIONS PERFORMED

Major Thoracic—	
Pneumonectomy	2
Lobectomy	13
Segments Wedges Cones	6
Thoractomy	4
Thoracoplasty	4
Decortication	2
Rib resection	2
Bronchotomy	1
Minor Thoracic—	
Bronchoscopy	44
Bronchial biopsy	21
Oesphagoscopy	12
Miscellaneous	7
Rib resection with drainage of empyema	1
Major General	13
Minor General	32
Orthopaedic	8
Urological	21
E.N.T.	8
Eye	2
Dental	5
Blood and Saline, Transfusions and Infusions	50

SURGICAL WARD

Admissions—	Male	Female	Total
Thoracic	23	6	29
General	13	6	19
Total	36	12	48
Day only and recovery patients	62	21	83

The undermentioned schedule illustrates the fluctuation in the number of patients in residence since the peak year of 1954.

Daily Average Number of Patients—	
1956	267
1955	260
1956	240
1957	202
1958	204
1959	158
1960	151
1961	160
1962	160

STANDARD ESTABLISHMENT

Visiting Specialist Staff—

Oto-Rhino-Laryngologist	1
Urologist	1
Consultant Thoracic Surgeons	2
Dermatologist	1
Orthopaedic Surgeon	1
Consultant General Surgeons	2
Consultant Physician	1
Radiologist	..*
Ophthalmologists	2
Neuro-Surgeon	1
Consultative Panel	3
Anaesthetists	2**
	17

* Dr. Munro now full-time Departmental service.

** The hospital can call on the services of Departmental Specialist anaesthetists when necessary.

Resident Medical Staff—

Medical Superintendent	1
Deputy Medical Superintendent	1
Surgical Registrar	1
Medical Officers	5
	8

Nursing Staff—

Matron	1
Sub-Matron	1
Home Sister	1
Sisters, theatre and nurses (female)	104
Attendants (male)	25
	132

Clerical Staff—

Secretary	1
Clerk (male)	1
Shorthand-typiste	1
Office Assistants	2
Record Clerk (female)	1
	6

Medical Auxiliary Staff—

Almoner	1
Occupational Therapists	2
Radiographer	2
Radiographer in training	1
Dispenser	1
Dispensary Assistant	1
Microbiologists	2
Laboratory Assistant	1
Laboratory Attendant	1
	13

Domestic Staff—

Wardsmaids and Housemaids	50
Kitchenmaids	3
Kitchenmaid-Cook	1
Cooks	6
Seamstress	1
Head Waitress	1
Cleaner (female)	1
Kitchenmen	3
	66

Miscellaneous—	
Outdoor Supervisor	1
Catering Officer	1
Storemen	2
Carpenter	1
Engineer	1
Painter	1
Firemen	3
Maintenance of grounds, Outdoor staff, Flower Gardener	6
Male Cleaners	8
	24
Visiting Clergymen	4
Librarian	1
Total	271

STAFF SHORTAGES

Nursing	18
Domestic	10
Medical Auxiliary	1
Medical Officers	2
Miscellaneous	Nil
Total	31

Garrawarra Hospital, Waterfall—Annual Report, 1962

STAFF

(As at 31st December, 1962)

Medical Superintendent—Dr. N. C. Wright.

Eleven Professional officers; one Manager; three Clerical officers; 1 Matron; seventy-eight female Nurses; twenty-five Attendants; thirty-six male Outdoor staff; twenty-six female Outdoor staff.

ACTIVITIES

Ward 8 was opened for the reception of patients from Newington State Hospital on 4th October, 1962, and the Ward was gradually and progressively filled and is now in full occupation.

Dr. Collins commenced duty here as Honorary Orthopaedic Surgeon in July, 1962, and resigned his position in November, 1962; but the position is as yet unfilled. There is good hope for believing that as soon as the position would be advertised, sufficient applicants would come forward to enable the Selection Committee to make a suitable selection.

Dr. J. L. Murray, Medical Officer, resigned his position on 19th August, 1962. Unfortunately, after Dr. Murray's resignation, the second Medical Officer's position became vacant and, so far, efforts to fill the position have not been successful. On 2 days in the week, relief is being provided by Lidcombe State Hospital, for which one is very grateful, though it has to be stressed that this solution of the problem has unsatisfactory features, *viz.*, 2 days in the week is obviously not enough, different Medical Officers are sent to relieve, who will never be able to know very much about our patients, our routine, our mode of dealing with our problems and the many circumstances characteristic to this hospital; and as their headquarters and main activity are at Lidcombe, only a rather limited interest is shown at Garrawarra Hospital, Waterfall.

It is considered very strenuous efforts ought to be made to effect a suitable replacement for Dr. Murray especially in view of the fact that Dr. Groombridge will be away in the near future on 3 months' accouchement leave.

The part-time Chiropodist, Mr. D. Greenbank, finished on 17th October, 1962, and as was foreseen and forewarned repeatedly by me in our correspondence to Head Office, very great difficulty is being experienced in filling Mr. Greenbank's position (S. 62/27973).

The building maintenance programme by the Public Works Department continued throughout the year and it is believed that they will finish here early in 1963, as to all appearances, further maintenance projects are not coming forward.

It is hoped that the former Women's Division will be opened in the not too distant future, which, of course, presupposes the erection of the proposed new Nurses' Home.

There is still need for a visiting Psychiatrist and a visiting Speech Therapist here, and foremost of all the appointment of a Physiotherapist to the vacant position on our staff, and in this regard, I wish to refer to previous correspondence especially to my suggestions how to obtain temporary relief until a fully qualified appointment could be made.

HOSPITAL STATISTICS

	Number of beds available. As at 31st December, 1961	As at 31st December, 1962
Male patients	61	61
Female patients	104	130
Male workers	89	89

	Male Patients	Female Patients	Workers
Remaining in Hospital 31st December, 1961	58	102	78
Admitted during 1962	50	91	396
Total treated during 1962	108	193	474
Discharged during 1962	38	38	409
Died during 1962	12	29	..
Remaining in Hospital 31st December, 1962	58	126	65
Average daily number resident	59·9	105·8	67·8

David Berry Hospital—Annual Report, 1962

There was very little difference in the number of inpatients and outpatients treated during 1961 and 1962. There was an increase in the number of persons X-rayed during 1962. The most significant feature is the large decrease in the number of operations performed in comparison to the 1961 figures.

The figures for the years 1961 and 1962 are as follows:—

	1962	1961
Inpatients	519	494
Outpatients	107	106
Births	18	20
Deaths	24	11
Operations performed	92	150
Persons X-rayed	588	499
Average daily residence	13·71	12·95

Statistical Summary

TABLE 1—SUMMARY OF EXPENDITURE—RANDWICK CHEST HOSPITAL, STRICKLAND HOUSE, GARRAWARRA HOSPITAL, STATE HOSPITALS AND HOMES, LIDCOMBE, NEWINGTON AND DAVID BERRY HOSPITAL FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1962.

Head of Expenditure	Randwick	Strickland	Garrawarra	Lidcombe	Newington	David Berry	Total
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and Payments in the nature of salaries	214,290 12 4	22,462 11 3	144,018 5 11	525,080 11 1	134,813 18 2	24,185 14 8	1,064,851 13 5
Provisions	35,556 12 11	11,036 15 5	32,844 19 5	141,057 11 10	35,893 3 6	2,906 9 8	259,295 12 9
Drugs, Surgical Appliances, Dressings etc.	13,665 17 0	8,677 12 9	3,145 1 8	40,107 3 3	4,025 0 1	1,249 17 6	70,860 12 3
Domestic utilities, including laundry expenses household linen, clothing furniture etc.	5,819 7 8	....	15,338 5 3	60,960 3 1	6,007 8 1	3 16 6	88,129 0 8
Fuel Electricity and Water	7,500 0 4	2,739 16 6	10,472 12 0	33,179 3 5	8,597 8 6	1,090 14 11	63,579 15 8
Renewals and Renovations to buildings and plant	10,732 4 3	3,718 6 1	24,120 9 5	35,746 10 6	18,842 17 8	2,263 6 8	95,423 14 7
General Establishment	15,007 18 4	3,239 3 2	9,947 4 0	34,393 2 0	6,586 6 7	2,619 18 1	71,793 12 2
Gross Maintenance Expenditure	302,562 12 10	51,874 5 2	239,886 17 8	870,524 5 3	214,766 2 7	34,319 18 0	1,713,934 1 6
Collections for Sales, maintenance and payments by Commonwealth Government	3,679 9 5	1,563 13 8	55,248 8 1	224,361 13 9	39,042 15 0	19,268 10 8	343,164 10 7
Nett Maintenance Cost to State	298,883 3 5	50,310 11 6	184,638 9 7	646,162 11 6	175,723 7 7	15,051 7 4	1,370,769 10 11
Average Daily Population	157	103	218	1,514	259	13	2,264
Average Annual cost per patient on gross maintenance expenditure	1,927 3 0	503 12 8	1,100 8 0	574 19 8	829 4 3	2,639 19 10	757 0 9
Average weekly cost per patient on gross maintenance cost to State	36 19 2	9 13 2	21 2 1	11 0 7	15 18 0	50 12 5	14 10 4
Average annual cost per patient on nett maintenance cost to State	1,903 14 3	488 9 1	978 3 6	499 11 11	782 14 1	1,314 12 3	679 15 9
Average weekly cost per patient on nett maintenance expenditure	36 10 2	9 7 4	18 15 2	9 11 8	15 0 2	25 4 3	13 0 9
Capital Expenditure not included in Maintenance	....	17,880 0 0	9,485 14 1	82,456 16 4	147 15 2	....	109,970 5 7

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